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THE HUMAN ADVENTURE

Ancient Civilization

TEACHERS' GUIDE

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CONCEPTS AND INQUIRY:
The Educational Research Council
Social Science Program

The Human Adventure
Book 1

Ancient Civilization

Teachers' Guide
Grade 5

Prepared by the Social Science Staff of the Educational Research Council of America

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INTRODUCTION

AIMS, ASSUMPTIONS, AND PRINCIPLES OF ERCSSP: *CONCEPTS AND INQUIRY*

WHAT IS SOCIAL SCIENCE?

Social science is a body of knowledge about human societies. It is organized under certain disciplines: economics; political science; sociology; anthropology; certain aspects of philosophy, religion, and psychology; geography; and history. The two last-named disciplines, in addition to being social sciences in themselves, offer a mass of detailed information that can be used as the case-material or laboratory in which the other disciplines are applied and tested. For example, the discipline of economics has certain insights and hypotheses about the causes and results of inflation of the currency. History can provide many cases in which the phenomenon of inflation may be examined.

TEACHING CONCEPTS

The Social Science Program of the Educational Research Council of America is focused on the disciplines of social science. Major concepts and skills in the disciplines are identified; they are then applied to a wide variety of topics, facts, and situations, so that the student learns a technique of analysis and synthesis. He learns how to use the concepts of social science both to understand social relations or problems and to make rational judgments and decisions.

For convenience, the disciplines are classified under six headings, each of which is symbolized in the Teachers' Guide by a vignette.

HISTORY

SOCIOLOGY-
ANTHROPOLOGY

GEOGRAPHY

PHILOSOPHY-
RELIGION-
PSYCHOLOGY

ECONOMICS

POLITICAL
SCIENCE

By the fourth grade, students should be using the terms history, geography, economics, religion, and political science. In the fifth grade, they should also learn to use the names of the remaining disciplines, and should be able to explain the subject matter of each discipline in broad terms.

THE LABORATORIES OF SOCIAL SCIENCE

There are three main sources for the facts of social existence:

1. Information about the world today (geography, current events, reports by sociologists, anthropologists, and other observers).
2. Information about the past (history and archaeology).
3. Personal experience and observation (home, school, local community, travel).

The teacher should make the fullest possible use of these case-materials or laboratories. For example, in studying the family as a sociological concept, the class may range from the Chinese extended family (discussed in historical context in connection with Confucianism) to the Hindu joint family (studied in the fourth grade area study of India) or polygamous families (mentioned in the study of Islam and the Middle East) to the nuclear family and its varieties found in their own homes and community.

THE INQUIRY METHOD

The method used in instruction is largely that of systematic inquiry. In other words, the student is shown how to ask the right questions, and how to use his growing knowledge of the disciplines in order to answer them. He is taught to have a high regard for accuracy in factual information, but he is not required to memorize facts unless they are part of the indispensable equipment of an intelligent citizen. He is taught also to see a given body of facts as a whole—as a total social situation or process. In this way he learns to see human societies as "going concerns" in which economic activities, political arrangements, social relations, culture patterns, religious institutions, values, traditions, technology, rate of change, social groups, natural environment, external relations, and so forth must be taken into account in any study or any practical decision.

SEQUENCE AND ACCUMULATION OF LEARNING

Conceptual learning and the use of inquiry are not achieved in "one-shot" courses. On the contrary, they are acquired only through planned, varied repetition. Consequently, the course in social science is sequential and cumulative throughout the entire school curriculum. The program at every grade level builds on, exploits, reviews, and deepens conceptual knowledge and skills introduced and developed in previous grades. The topical material at each grade is selected for its intrinsic interest, but also provides a planned variety of case-studies in which students can demonstrate their growing ability to analyze and judge human societies and social affairs.

VALUES

Analysis, synthesis, judgment, and decision cannot be made in a value-free moral and esthetic vacuum. The social science program must, therefore, pay constant attention to the values that direct men's choices and behavior. Every culture, every society has certain "controlling ideas"—religious beliefs, assumptions about human nature, ideas of right and wrong, or of beauty and ugliness, conventions about manners, and similar concepts. The student must learn from the outset to understand the controlling ideas of his own society and to appreciate those of other societies.

In addition, he should learn to think critically about values. What does a certain value really mean? Do people live up to their hypothetical values? How can one best apply a value in a given situation or predicament? Above all, the student should learn to inquire into the possible existence of universal values, that is, values shared by rational men everywhere. This concept of Natural Law is an important counterbalance to the cultural relativism (and consequent cynicism) that often results from analysis of successive religions and cultures.

PLURALISM OF VALUES AND CULTURES

In teaching about our own society and culture, we must be on our guard against implying a monolithic system of values or a single, all-embracing culture. It is true that there is a mainstream of American culture; true, too, that certain basic values are accepted by most Americans. However, the society of the United States is composed of many subgroups and sub-cultures, so that one of our most basic values is the value of tolerance, which implies sympathy and sensitivity to the values held by groups other than the one to which we happen to belong.

SUGGESTIONS ON STRATEGIES AND TACTICS FOR THE TEACHER

AN ECLECTIC METHODOLOGY

Teaching is an art—and an eclectic one. In this program, no attempt is made to impose a particular method of instruction on the teacher, although many varied suggestions are made in the Teachers' Guides. The ERCSSP materials can be used in conjunction with private study, independent research, group discussion, committee projects, team teaching, lectures, films and filmstrips, recordings, Socratic dialogue, role playing, inductive investigation, deductive argument, field trips, study of current events, essays and reports, classroom displays (collages, bulletin boards, time lines, maps, models), and other techniques, activities, or devices.

TEACHING CONCEPTUALLY

Certain guidelines for the teacher can, however, be suggested. The first is this: attention should be concentrated on learning concepts not facts. Facts must be respected, but they need not, in general, be learned by rote. In a sequential program such as ERCSSP, conceptual understandings are the links that bind together the topical or factual content.

What is a concept? It is a creation of the mind designed to give pattern and meaning to the buzzing confusion of facts and events. For example, the concept of "civilization," once understood, can be applied to dozens of historical or contemporary societies. An economic concept like the "division of labor" in relation to efficiency of production, can be used in analyzing any society, civilized or uncivilized. A political concept, such as "war," a useful tool of classification, becomes a tool of analysis when associated with other concepts such as "total war," "limited war," "strategy," "imperialism," "self-defense," "military technology," "foreign policy," etc.

Concepts should not, generally, be taught in isolation, but rather as mutually supporting ideas to be used to analyze a situation or problem. In other words, the student should acquire a grasp of a given total situation by applying to it the appropriate concepts and skills from various disciplines.

Thus, at an early stage in *The Human Adventure*, a formula for analyzing a culture is provided. It includes questions based on concepts from all the social science disciplines.

This formula should become almost second-nature as the student progresses. It is, in fact, a somewhat more sophisticated version of a formula used as early as second grade.

INQUIRY AS AN INSTRUCTIONAL AND LEARNING TECHNIQUE

"Inquiry" has twofold significance in education. In the first place it sums up a major objective of all education: the objective of enabling the student to continue to learn and to go on analyzing and even (occasionally) solving problems throughout his life. In other words, the habit of inquiry and the ability to set about an investigation are among the most important results of sound education.

In the second place, and of more immediate significance, inquiry is an admirable method of instruction, since it compels the student to engage actively and directly—not passively—with the material studied. *Inquiry shifts the emphasis from teaching to learning.*

The two aspects of inquiry are inseparable. The early habit of learning by inquiring becomes the lifelong habit of investigating, analyzing, and judging. Consequently, the teacher should seize every opportunity—within reason—of reinforcing the method of inquiry.

What is this method? It includes any activity that encourages pupils to find out, think for themselves, weigh pros and cons, interpret facts, or apply their knowledge to new situations or problems, rather than merely absorb or memorize materials presented verbally or authoritatively.

Types of Inquiry. In early grades, inquiry can take many forms. These often overlap in practice. Here are a few:

1. observing and experimenting in order to make generalizations
2. forming an hypothesis and testing it
3. using logical reasoning (recognizing contradiction and inconsistency, weighing alternatives, estimating probability, engaging in controversy and argument)
4. finding facts (and recognizing non-facts)
5. interpreting facts (seeing patterns of relationships; weighing facts of differing importance; using maps, pictures, diagrams, and graphs)
6. developing a systematic method of investigation (knowing what questions to ask, recognizing when a given topic calls for a specific discipline, analyzing and synthesizing, knowing one's objective)
7. making practical judgments (putting together one's values, observations, analyses, and knowledge in order to come to a decision)

What is required, if the pupil is to inquire effectively? First of all, both teacher and pupil should have clear objectives. Inquiry should not be aimless. Secondly, the pupil must possess certain knowledge. That knowledge will include:

relevant facts (not necessarily to be memorized),

a conceptual framework (this will include an understanding of terminology and of rational or scientific method in the disciplines),

skills (manipulation, communication, interpretation),

values (a system of judgment and priorities).

Emphasizing Inquiry. In the *Concepts and Inquiry* Program, great emphasis is placed on the application of the social science disciplines in the educational inquiry process. Thus, the pupil text is frequently interrupted by questions and problems to make the pupil engage in active dialogue by applying his skills and conceptual knowledge. These questions and problems are marked by symbols to indicate degree of difficulty or complexity.

- ► a simple question or problem of fact
- ● a more complicated question or problem calling for discussion and not necessarily answerable in terms of "yes" or "no" or "right" or "wrong"
- ★ a question or problem that is optional, involving research or additional preparation (may be used for homework or independent study)

Inquiry is also stressed at appropriate points in the Teachers' Guide. Opportunities for using the inquiry process are indicated by the inquiry symbol (a question mark) beside the appropriate activities.

INDIVIDUALIZING INSTRUCTION

Learning is always "individualized." Is it also possible to "individualize" instruction? The ERCSSP is intended to give the teacher as much scope as possible, while providing both guidance as to main objectives and basic pupil materials in the form of textbooks.

In order to individualize instruction one must diagnose the varied aptitudes, capacities, interests, and personalities of the students. In the light of this diagnosis, the teacher can then group the students for activities and provide special individual challenges or help. The fast readers can learn through private study of the textbook and other printed resources. The slow readers can be grouped for directed reading; or parts of the text may be recorded on tape for individual or group listening. Youngsters with manipulative skills can make models or artifacts. A boy with special interest in technology should be encouraged to report on technological aspects of a culture or society. Some pupils might want to create costumes; others to put on a playlet; others to make a large, vivid map. Some students seem to respond best to sounds and spoken words; others to written words; others again to symbols, diagrams, or pictures. Some are sparked or motivated by drama and stories; others like logical puzzles and arguments. Some have serious difficulty in "translating" what they read or hear into meaningful ideas or pictures in their minds. Some are at a disadvantage because of limited vocabulary or experience.

Much remains to be discovered about the idiosyncrasies of learning, but the sensitive teacher can do much to bring out the best in each student. In social science, the possible varieties of approach and emphasis are perhaps greater than in any other subject.

CUMULATIVE LEARNING

It is perhaps worth emphasizing once more that the objective of the ERCSSP is a long-term, cumulative one. The important things that the students learn are the things they will remember and use all their lives.

There is no objection to testing the students for factual recall in quizzes or examinations, as long as we bear in mind that this type of knowledge will soon be erased from their minds. A quiz of this kind merely trains the students in short-term memorization—which is, unquestionably, a useful faculty to possess.

How can the teacher avoid losing sight of the long-term objectives? Perhaps the best way is to ask oneself at frequent intervals: Is this thing that I'm teaching now—this fact, this concept, this skill—something that I feel sure these youngsters will need to know all through their lives? For example: do they need to know the dates of Sargon, King of Akkad? On the other hand, they do need to know where the Middle East is, and they probably ought to know the location of Mesopotamia and the fact that the earliest great civilization arose there. Again, do they really need to know the details of Queen Shubad's funeral? On the other hand, they should know something of the ways in which archaeologists discover such details, and how they weigh evidence or reconstruct it.

USING THE PUPIL TEXTS

Every effort has been made to make the pupil texts vivid, varied, readable, and challenging. Conventional exposition followed by conventional questions directed to factual recall has been avoided. The teacher should bear this in mind. The following hints will help you use the pupil texts more effectively and efficiently.

a. Concentrate on big ideas, concepts, rational argument, and analysis. Do NOT teach for total mastery or total recall.

b. Pacing is important. Do NOT go too slowly. There is much material to cover. It is easy to bore the students if you dwell too long on a given topic.

c. Remember that every important concept in the materials will be covered again and again in later stages of ERCSSP.

d. Make the fullest possible use of illustrations, maps, and diagrams; discuss them; help the students to interpret them; supplement them with outside sources.

e. Take advantage of the fact that the book is relatively short. The students get a psychological lift every time they complete a book and start a fresh one.

f. When concepts are introduced, try to find out what the students already know about them. Impress the students with the point that they are expected to carry conceptual knowledge over from one grade to the next.

g. Above all: Do take time to introduce a given topic or series of pages in oral discussion *before* you ask the students to read the pages. The topical content, general line of argument, main concepts, and important terms (boldfaced words) should be touched on in this introductory discussion. What you will do for the pupils is what most adults do for themselves before they read an article or chapter on a scientific or political topic (though not a story or poem). You will "skim" the pages for the pupils in order to give them a general idea of what they may expect to find as they read more closely.

h. Instead of, or in addition to, noting and explaining the boldfaced words, the teacher may encourage students to use the glossary to find explanations of words. In any case, students should learn to use the glossary both as an aid to reading and as a tool for review. Do not, however, require pupils to "learn" the glossary in parrot-fashion.

CLASSROOM MATERIALS

Here are a few general suggestions of materials that will be useful, if not essential, as the pupil texts for Grade 5 are studied:

Globe or globes
Wall maps of the world and specific areas
Set of historical wall maps
Historical atlas

A junior encyclopedia
Copies of the Bible and Torah (various versions)
A translation of the Koran
Books with colorful illustrations (see *Resources*)
Materials for constructing a time-line on the classroom wall
Materials for constructing large simple maps or charts
Materials for reproducing "artifacts," e.g., copies of statuettes, or cylinder seals, or a ziggurat.
Labelled folders for collections of clippings, illustrations, etc.
Examples of titles for such folders: "Ancient Sumer"—"Ancient Egypt"—"Archaeology"—"Political systems old and new"—"Polytheistic religions"—"The Middle East Today"—"Imperialism"—"Chinese art"—"Medieval European art"—"Islam"—"Money-old and new"—"Trade"—"Weapons-old and new"—"Writing and alphabets of the world"—"Transportation-old and new"—"Irrigation"—"Tools and machines-old and new"—"Clothes, costumes, and ornaments through history"—etc.

Note: When starting a new book, give the class a list of topics and ask the pupils to watch out for articles and pictures and to bring these as contributions to the class-files on these subjects.

USING THE TEACHERS' GUIDE

Since the ERCSSP is unconventional and ambitious in scope, it makes heavy demands on the teacher. The Teachers' Guide has been designed first, to provide maximum help in teaching the program, and second, to give the teacher some information beyond that in the pupil text.

The organization of the Teachers' Guide should be understood. In addition to this Introduction for the entire grade, there is a brief Foreword in the Guide for each of the subsequent fifth-grade books. Each chapter of the pupil text is dealt with in a corresponding chapter of the Teachers' Guide. The material in the Guide is arranged as follows:

1. Name, Theme, and Outline of the chapter
2. Concepts and Objectives
3. Background Information
4. Suggestions for Teaching
5. Introductory Inquiry Activity
6. Notes on Questions
7. Activities

Resources are listed at the end of each Guide.

Some explanatory comments on these divisions of the Teachers' Guide may be helpful.

The *Concepts and Objectives* sections focus attention on the disciplines and concepts to be emphasized and the questions to be explored in each chapter. The concepts take the form of a brief descriptive phrase, and recur throughout the Guides. The objectives are in the form of specific topical questions.

For example, in Chapter 7 of *Ancient Civilization*, a general concept of history and specific questions relevant to the chapter are noted.

CONCEPT	QUESTIONS
The nature of historical evidence and the methods used to find out about earlier peoples	How do we know about the ancient Egyptians? About the ancient Indus River Valley people?

The students should be able, after studying the chapter, to indicate both historical and archaeological evidence about Egypt (the deciphering of hieroglyphics, discovery of many artifacts) and purely archaeological evidence for Harappa and Mohenjo-Daro (the diggings made in the 1920's, and later, at the sites of these cities).

Suggestions for Teaching are intended to guide the teacher in selective emphasis. This section may present old concepts to be re-inforced, emphasize new concepts being introduced, recommend time allotments for various sections of a chapter, and in general, alert the teacher to the important facts or concepts to be drawn from any given chapter.

The aim of the *Introductory Inquiry Activity* is to whet the students' appetites and to make them use their existing knowledge, their deductive powers, and their imaginations before they study a given topic.

The Notes on Questions provide suggested answers to every question that appears in the pupil text. The answers are keyed to the relevant pages in the text by page numbers and symbols. These answers indicate the main lines on which replies or discussions should be directed, but are not intended to be definitive, and should not inhibit original thinking.

Activities present suggestions for exercises, discussions, artistic and creative experiences, additional research, and so forth. The teacher should use her own discretion in choosing these activities for her class.

TOPICAL CONTENT OF ERCSSP KINDERGARTEN THROUGH GRADE SIX

Although the conceptual content of the ERCSSP is paramount, the teacher should be familiar with the topics used for case-study throughout the program.

Kindergarten:	School, self, home and family, buying goods and services The earth, globe, landmasses, oceans Life in Japan, Mexico, Samoa, England
First Grade:	Review of home and school Study of transportation A trip to Washington, D.C. Explorers and discoverers from the Norsemen to John Glenn Four great Americans: Washington, Lincoln, Clara Barton, Amos Fortune Anthropological studies: Mongols, the Ganda, Tahitians, Southeast Woodland Indians Geography: globe, landmasses, poles, cardinal directions, maps, aerial photos
Second Grade:	Systematic study of communities: local community, Australian Aborigines, Alaskan Eskimos Study of American communities: Williamsburg (Virginia), Webster City (Iowa), Crossett (Arkansas), Yakima (Washington), Pittsburgh (Pennsylvania), Fort Bragg (North Carolina) Geography: maps, continents, oceans, natural and cultural environment

Third Grade:	*The Making of Our America*: simple history and geography of the United States with some reference to Canada *The Metropolitan Community*: study of life in a big city Geography: maps, continents, oceans natural and cultural environment, climate, earth-sun relations
Fourth Grade:	*Agriculture: Man and the Land*: man as a hunter-gatherer and a primitive agriculturist; rice growing in Java and Texas; evolution of wheat growing on the Great Plains *Industry: Man and the Machine*: growth of the canning, textile, and automobile industries; automation; problems and future of a changing world Geography: scale, relief, grid, regions, climate Area Study: *The Indian Subcontinent*

THE HUMAN ADVENTURE

Fifth Grade:	*Ancient Civilization*: ancient Sumerians; Indus Valley civilization ancient Egyptians; the "ebb and flow" of civilizations in the Middle East until 500 B.C. *Four World Views*: Confucianism; Buddhism; ancient Hebrews; Greek naturalism *Greek and Roman Civilization*: ancient Greece and Rome and their influence on Western civilization and early Christianity *Medieval Civilization*: Islam; African kingdoms; Latin Christendom; Mongol conquests Geography: latitude, longitude, historical maps, time, review of earlier studies Area Study: *Lands of the Middle East*
Sixth Grade:	*The Age of Western Expansion*: discoveries and technological advances; Renaissance; Reformation; rise of nationalism in Europe *New World and Eurasian Cultures*: Maya and Aztec civilizations; European conquests and colonies in the New World; Russia under Ivan IV; Japan in later Middle Ages *The Challenge of Change*: absolute monarchy in France under Louis XIV; growth of Parliament in England; American and French Revolutions; Industrial Revolution *The Interaction of Cultures*: Western and non-Western imperialism; interaction of Western and non-Western cultures; spread of Western controlling ideas—nationalism, democracy, humanitarianism, socialism Geography: continued use of maps and atlases; expansion of skills taught in earlier grades Area Study: *Lands of Latin America*

CONCEPTUAL CONTENT—GRADES FIVE AND SIX

GEOGRAPHY	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
Globe and map skills	Globes, maps, directions, landforms, map symbols, latitude, aerial photographs, grid, scale, relief	Latitude and longitude; historical maps	Continued use of maps and atlases
Earth science in relation to social science	Earth-sun relations, seasons, climate	Earth-sun relations and latitude and longitude; days, years, centuries; climates	Further studies in climate and culture
Human ecology: man's adaptation to and control of his environment (See also *Economics*: "Economic growth" and *Sociology*: "Demography.)	Natural and cultural environment in many areas and societies. The agricultural (neolithic) revolution	Review of the agricultural revolution; civilization, irrigation, etc., as changes in environment; importance of technology	Further studies of man's influence on environment: exploration, settlement, Industrial Revolution, Western expansion
Regions	A region is an area homogeneous in terms of specific criteria. Many types of regions: areas of a community, physical regions of Anglo-America, Southeast Asia, Indian subcontinent, etc.	Physical and cultural regions include Mesopotamia, Nile and Indus Valleys, China, Islamic Empire, Latin Christendom, the Sudan, Middle East	More regions: Western Europe, Russia, Japan, Chinese Empire, East-Central Africa, Latin America, etc.
Natural resources	A natural resource is a natural product exploited by man: e.g., many resources of the United States; soil and climate are natural resources; etc., etc.	Man's exploitation of resources in agriculture and early civilization; bronze and iron; Greek exploitation of Mediterranean climate and soil; oil in the contemporary Middle East	"New" natural resources as a result of science, technology, industry, and world trade. The resources of Latin America

Geography	Previous Grades	Grade Five	Grade Six
Circulation, or spatial interconnections	The movement of things on the face of the earth: migration, trade, diffusion and interaction of cultures and civilization: transportation, exploration, colonization	Many examples in world history of trade, conquest, spread of civilization	The Modern Age is the Age of Western Expansion: accelerating interaction of cultures and expansion of trade
Political geography (See also *Political Science*: "International politics.")	Territorial division of earth into states or other socio-political units; nations, empires, provinces; boundaries; capital cities; wars for control of territory	Rise and fall of states and empires; changing boundaries; conquests: e.g., Sumer, Babylon, Egypt, China, Athens, Rome, Islam, or the contemporary Middle East	Nations, nationalism, and imperialism in modern history and in contemporary Latin America. Major wars and revolutions have affected political geography
Urban geography	The geography of cities: Why do cities appear in certain places? What is their relation to rural areas?—to trade? How do they affect ecology?	Cities and civilization are intimately related, e.g., in Sumer. Cities are related to trade, war, revolution	Cities in modern times. Urban concentrations in Latin America
Philosophy-Religion-Psychology			
The nature and importance of values and their relation to controlling ideas. (See also *Philosophy*: "The nature of religion.")	Values govern human behavior. Right and wrong, justice, freedom, responsibility, loyalty, tolerance, human dignity. Contrasts between cultures. The role of religion in shaping values. Negative values: race prejudice, slavery, etc.	Varieties of cultural and religious values, e.g., Sumer, Confucianism, Buddhism, Judaism, etc. The theme of "controlling ideas" is introduced.	More studies of religion and controlling ideas: Protestantism, Catholicism, Shintoism, etc., and modern "isms" such as nationalism, democracy, socialism, conservatism, liberalism.
Norms and relativity	Are there universal values? Or are all values conventional and culturally determined? Students are faced with this question again and again.	To understand a society and its culture one must understand its values. Certain values seem common to rational men everywhere. Does civilization tend to lessen cultural gulfs between societies?	The problem comes into sharper focus in the "one world" of today, with its Western-non-Western interplay and its competing loyalties and ideologies.

PHILOSOPHY-RELIGION-PSYCHOLOGY	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
The nature of man	Is there such a thing as an objective statement about man's nature? Or is his character molded by culture and "self-image"? Is he rational or irrational? Good or bad? etc. etc.	The nature of man reflected in various historical cultures. Does the ebb and flow of civilization signify a flaw in human nature? Differing views of man and his purpose: Confucius, Buddha, Judaism, Greek naturalism, Christianity, etc.	Modern views of man: Renaissance humanism; Luther, Enlightenment; revolutionary, liberal, democratic, conservative views
Techniques of critical thinking (See also *History*: "Interpretations of history.")	Analytic and synthetic thinking about social and human affairs. The importance of logic, consistency, correct facts, and realism	Historical episodes enable the student to apply logic and the disciplines of social science. Historical evidence. Problems of cause and effect	Continued use of logic and the disciplines in history. Paradoxes and dialectical relationships in history: e.g., why does revolution often lead to dictatorship?
The nature of religion (See also *Philosophy*: "The nature and importance of values.")	Religion is man's ultimate conviction about the meaning and purpose of life. Plurality of religions in America; religious beliefs in other cultures, e.g.: Hinduism; Australian Aborigines' beliefs	Many world religions are examined: Confucianism, Buddhism, Judaism, Christianity, Islam.	Further examination of religions: the Reformation, Aztec beliefs, Shintoism, the Enlightenment
Understanding oneself and others	A practical psychologist's approach, intended to make the student aware of himself and others. Social problems call for sympathy as well as scientific understanding.	History has many hints about human relations, potentialities and limits, and about group relations.	A realistic understanding of oneself and others is encouraged by the critical study of modern history.

ECONOMICS	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
Demand and supply	Man's wants are unlimited but supplies are limited. Supply can be increased by various means. Demand and supply determine production and price. Consumption and production may be studied in any type of community.	Review of primitive gathering-and-hunting. Agriculture revolutionized supply. Civilization makes further advances in supply, but rise of population and other factors keep supply and demand in tension.	Effects of trade, imperialism, industrialism, and other factors. The business cycle. Standard of living
Division of labor, of specialization	A key factor in efficiency of production. This concept is studied at every grade level in varying contexts.	The rise of civilization is accompanied by a great increase in specialization of function. This leads to many advances. It also produces problems, such as class conflict, luxury, decadence.	The Modern Age sees a dizzy acceleration in the degree of division of labor in advanced nations.
Tools or capital (surplus, savings)	Capital is postponed consumption, that is, a surplus of work or goods is used to produce other goods. Capital goods (tools) are used to produce goods for consumption (consumer goods). Capital, wisely developed, increases production. It usually goes with division of labor. The many forms of capital include: simple tools, machines, factories, roads, schools, stores.	Like the degree of specialization, the degree of capital investment is a measure of economic development and of civilization. Capital in Sumer took the form of canals, towns, workshops, tools, schools. Capital decays when civilization declines.	Modern capitalism in Europe and America: savings, banks, investment in machines and factories, the role of entrepreneur
Exchange or trade	Exchange or trade maximizes the possibility of efficient production. It varies from barter through money to sophisticated transfers of credits. The role of the middleman. The nature of profit and loss	Trade in and between centers of civilization: Sumer, China, the Athenian Empire, Western Europe, and the East. Trade and the reemergence of civilization in Christendom.	Trade was a major incentive in discovery and colonization. Trade brought the various cultures of the world into contact; it also provided the capital base for the Industrial Revolution.

ECONOMICS	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
Agriculture, manufacture, services	Goods are things for which there is a demand. They can be divided into agricultural and manufactured goods and services. The proportion of labor devoted to each type of goods in a given society is an index of its economic development.	The distinction is now assumed to be understood.	Industrialization leads to a change in distribution of productive labor in a society. The proportion of farmers falls in relation to industrial workers. Later still, services outweigh both manufacture and agriculture.
Money, credit, banking	Money is a medium of exchange; it is also a means of storing value. The ratio of money to goods available affects prices (inflation, deflation). Credit is buying on the strength of a promise to pay in the future. Banks are intermedaries between lenders and borrowers; they also control the amount of money in circulation.	The rise of the use of money in early civilizations	Banking in medieval and Renaissance Europe. Bills of exchange and letters of credit; investment and capitalism; debasement of currency and inflation
Government and the economy	Government policy always plays a part in the economic life of a society. For example: British mercantilist policy in the American colonies, public services, taxes, zoning, unemployment compensation, corporation law, various types of regulation. Distinguish "free market" and "state-controlled" economies	Government influence on economics in ancient and medieval times. Ruling class, defense, taxes, slavery, imperialism, money. Feudal economy	Various types of government economic policies in modern times: mercantilism, Colbertism, colonialism, bullionism, currency debasement, monopoly; subsidy, protectionism, economic imperialism, laissez faire, socialism

Economics	Previous Grades	Grade Five	Grade Six
Labor-management relations	There are many types of labor systems: primitive communism, slavery (predial and chattel), small private farms, plantations, wage labor. Unions and labor contracts in the free industrial nations	Labor systems in the ancient and medieval world: Sumer's slaves of the gods; mixed free and slave labor in Athens, Sparta, Rome; feudalism with serfdom or villeinage; contractual free labor in medieval towns	Labor systems in Western Europe and the New World colonies: encomedia, mission, plantation, New England farm, seigniorial system. Modern industry and the labor movement
Economic growth (See also *Geography*: "Human ecology"; *Sociology*: "Demography.")	This important concept deals with the rise (or stagnation) of productivity in a society. Economic growth should at least keep pace with population growth. In the contemporary world the concept is highly significant, since some economies (the developed) grow fast, while others (the underdeveloped or developing) grow slowly or not at all.	Economic growth and economic regression can be seen again and again in the ancient and medieval world. The causes of such changes are varied: the coming of civilization, changes in technology, capital accumulation, waste or exploitation of resources, war, revolution.	Rapid economic growth of the West, c. 1500 to the present, is the most explosive example of economic growth in history. It has produced a wide gap between rich and poor nations (*cf.* the gap in the past between barbarians and civilization).

Note:

A few additional economic concepts are beginning to shape themselves in Grades Five and Six. For example:

Types of economies (primitive, subsistence, static or traditional, developed or advanced, free market or consumer-oriented, mixed socio-capitalistic, state-controlled, totalitarian). Compare types of property.

Factors of production (land or raw materials, labor, capital, management or entrepreneur).

The business cycle (especially significant after the Industrial Revolution).

Population trends.

Imperialism as an aspect of economics.

The Gross National Product (GNP) and *GNP per capita.*

Stages of economic growth.

Diminishing returns and marginal utility.

SOCIOLOGY-ANTHROPOLOGY	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
The family: basic social group	The family is the basic unit in all societies, but varies considerably in structure. Families in U.S.A., Latin America, India, Australia (Aborigines), etc.	The family in Sumer, China, Roman Republic, Mongolia, and Middle East	Family among the Ganda and the Hawaiians
Education and socialization	Every society has institutions and processes to bring the young into society. We study this concept in our own society and several others, historical as well as contemporary.	Education in ancient Sumer. Taiwan today, classical Greece and Rome, Islam, and medieval Christendom	Education and child rearing is not heavily stressed. We note, however, the changed emphasis in education after the Industrial Revolution.
Primitive societies	Primitive societies are of special interest to anthropologists for the light they throw on human nature and cultures. We study Woodland Indians, the Ganda, the Mongols, the Tahitians, Australian Aborigines, Eskimos, Plains Indians, prehistoric men.	Review of precivilized societies. The Mongols	Hawaiians and the Ganda. Also problems of Indians and African slaves in the New World
Cultural differentiation and culture contact (See also *Philosophy*: "The nature and importance of values" and "The nature of religion.")	How do cultures differ? How do we study them? What happens when they come into contact with one another? The United States has differing subcultures. We look at various primitive cultures (see above) and others—colonial America, big city culture, Java, and India.	A major theme in *The Human Adventure* is culture and culture contact. Every chapter contains examples. A major theme is the formation of Western culture by the mingling of Greco-Roman and Judeo-Christian ideas.	We study various results of culture contact: acculturation, segregation, genocide, pluralism. The modern Age is an age of rapidly spreading culture contact between Western and non-Western cultures.

SOCIOLOGY-ANTHROPOLOGY	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
Classes and other groups in society	The sociologist is concerned with the group structure of and group relations in societies. Groups take many forms: biological, economic, religious, political, status, ethnic. Some societies are static, others mobile. Families are studied (see above), and functional groups and classes in American society and some others. We look at the caste system of India.	Civilization produces classes with varied functions and privileges. Conflicts between classes may occur; so may revolts and revolutions due to class war. Another type of group is the tribe, e.g., in Mongolia. Note also the class structure of feudal societies. Classes in the contemporary Middle East	Class structures and relations in the modern world: Western Europe, Russia, medieval Japan, the Amerindian civilizations, the New World colonies, the French Revolution, etc. Social structure of Latin America today. Problems of racial and ethnic relations
Social harmony and disharmony	This concept overlaps the preceding concept of groups and classes. Some disharmony seems inevitable, at least in free, pluralistic societies. We stress the need for understanding and tolerance to overcome disharmony, e.g., in our community, in big cities, in race and ethnic relations today and in the past.	Critical moments of history are often moments of acute social disharmony. We contrast times of harmony with times of disharmony. Examples of the former: China under the "Will of Heaven," Islam at its zenith, the middle period of the Roman Republic. Of the latter: the breakdown of Athenian democracy and of republican Rome, etc.	Modern history presents many examples of both harmony and disharmony – often in the same nation or society at different periods. Nationalism was a major harmonizing force, although nation-states also fall into disruption and conflict.
Demography (See also *Geography*: "Human Ecology" and *Economics*: "Economic growth.")	Population changes offer important clues to the social scientist. We study changes in the size of communities, location of population centers, migration, urbanization, and the so-called population explosion of recent times.	Note the effect on population of (1) agriculture, (2) civilization. Political and economic decline also. In the Middle East area study we use "population profiles," to show distribution of population by age groups.	Growth and migrations of populations since 1500. The population explosion in Latin America today

NOTE: In Grade Six the disciplines of anthropology and sociology are discussed in connection with the studies of the Ganda and Hawaiians.

POLITICAL SCIENCE	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
The nature of government	These questions are of central importance: Why is government needed? What are its functions? We examine these topics at every grade level. Consider: power, legitimacy, consent, services (public and private), taxes, etc.	Civilization means greater complexity of government and its functions. Governments in Sumer, ancient China, classical Greece and Rome, and feudal Europe are compared.	Various styles and forms of government in the modern world: absolute monarchy, representative government, constitutionalism. Some theories of government, including Machiavelli
The nature of law	Laws and government generally go together, although primitive societies may have very complex laws and rudimentary governments. Why are laws needed? Can one tell a good law from a bad one? Are there different types of law: universal, constitutional, statutory, conventional? Legislation is distinguished from adjudication and execution.	The complex laws of Sumer and Hammurabi. Differing attitudes to law in China, Palestine, Greece, and Rome. The Jews as "people of the law." The Muslim concept of law	Varieties of legal systems in the modern world. Problems of change in society and change in law. Absolutism and consent to laws
Constitutionalism versus arbitrariness	In a free society, this distinction must be understood. Constitutionalism means limits and checks and balances to protect the individual group. Arbitrariness, or absolutism (dictatorship), is the exact opposite. The Constitution of the United States is used as the principal example of constitutionalism.	Democracy and constitutional republicanism in Athens and Rome respectively. Our debt to classical theorists and experience, Feudalism and the beginnings of constitutional monarchy	Spanish and French absolutism as contrasted with English Parliamentarism. Other despotisms include Hideyoshi, Ivan IV, the French Revolutionary Terror, Napoleon. Also studied are: the United States Constitution and the rise of democracy in the nineteenth century

POLITICAL SCIENCE	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
Political obligation	Are men morally obliged to obey the laws of their society? Why or why not? Are there occasions when one is *not* morally obliged to obey? The problems and dilemmas of free men are introduced gradually. The relation between freedom and voluntary loyalty is made clear.	Greek and Roman history illustrates the relation between freedom and loyalty (or voluntary law abidance). We see the imperfection of free societies in the trial of Socrates and the anarchy and dictatorship in the later Roman Republic.	Case studies illuminate the question of political obligation, e.g.: the Italian city-states, the Reformation, the early nation-states and nationalism, civil wars and revolutions in England, America, France. Some of the "isms" of the nineteenth century are studied.
Types of government	In addition to the basic distinction between constitutional and arbitrary, we learn to recognize many other distinctions, e.g.: monarchy, democracy, aristocracy, representative government, mixed government, federal, separated powers, parliamentary, etc. etc.	Theocracy (priest rule) and military rule in Sumer, the Chinese Imperial system, Greek city-states, Rome as Republic and Empire, Muslim states, feudal monarchy, contemporary Middle Eastern governments	National monarchies (absolutist and constitutional), Tsarist despotism, British and American governments, the phases of the French Revolution, colonial and imperial governments, contemporary democratic government in Latin America
Domestic political struggles	In addition to the formal structure of government, we need to know about the struggle for power and influence that goes on in most societies. The struggle can be cruel and ruthless, as in many despotic societies, or more or less orderly and humane, as in constitutional representative states. Elections and parties in America. Episodes of conflict in America (Revolution and Civil War). Class conflict	Factions and class conflict in classical Greece and Rome. Struggles between feudal nobles and monarchs, or between church and monarchs, in medieval Europe	Factions, parties, ideologies, and revolutions in the modern world. Liberals vs. conservatives, socialists and Communists, industrial conflicts. Parties in Latin America today

Political Science	Previous Grades	Grade Five	Grade Six
Political ideologies	This is the counterpart of controlling ideas (see philosophy or anthropology). An ideology is usually activist and propagandist; it is a plan for action to change society. A major ideological split in our world is between totalitarian and constitutional ideas. Other ideologies might be proslavery and antislavery in the U.S.A.	Controlling ideas of Confucianism, Buddhism, Greek naturalism have ideological overtones. The Peloponnesian War was an ideological struggle (democracy vs. oligarchy); so was the civil war in Rome between "populares" and "optimates."	Modern ideologies studied include: nationalism, absolutism, revolutionary democracy, imperialism, anti-imperialism, humanitarianism, socialism, communism.
American government	The understanding of our political institutions is a central objective of any social science program. We are especially concerned with basic ideas such as human dignity, rights and duties, separated powers, government under law, federalism, free elections, the making and applying of laws, etc. We note the various levels of government in the United States. We contrast our system with other types.	The roots of American political ideas: Greco-Roman theory and practice, Judeo-Christian ideas, feudal representative institutions and charters, English institutions.	The emergence of American traditions and institutions. The Revolution, the Constitutional Convention, the Enlightenment, the Civil War, U.S. relations with Latin America
International politics (See also: *Geography*: "Political geography")	The study of the relations between states is important and difficult. We begin to recognize national interests, the role of defense, conquests, wars, international trade, foreign aid, and the problem of developed and developing nations.	The ebb and flow of civilization is bound up with questions of power, morale, military techniques, strategy, tactics, and wars. Note the changes in the power balance and in military methods; note the conflict between barbarians and civilization.	Why did Western Europe become predominant? The phenomena of nationalism and imperialism are examined. Various types of wars are also studied. International trade, including mercantilism, free trade, and economic imperialism is examined.

HISTORY	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
Time, chronology, speed of change, periods of history	Time and chronology are the core of history. These are difficult concepts for children, but they can grasp them, gradually, by third or fourth grade. Periods of American history. Major technological revolutions of the human race	Systematic study of time and chronology is introduced, together with the use of time lines and the concept of periods of history.	The application of understandings of time and chronology continues. The technical meaning of "Modern Age" is emphasized. Particular stress is placed on the accelerating rate of change in modern and recent times.
History as a clue to the present	A man without a knowledge of history is like a man lacking memory and experience. History provides the laboratory for social science. Understanding the history of the United States helps us to understand our nation and its policies and problems today. The history of technology is studied in broad terms.	Many episodes of world history are studied; they help us to understand man (ourselves), and many facts in the contemporary world such as the contrasts between Western and non-Western cultures, the gap between advanced and underdeveloped nations, the rise and fall of states and cultures, etc.	Episodes of modern history are chosen for their bearing on America and the world today.
Historical imagination	Historical imagination is the faculty of placing oneself in the point of view of people at different times and different places in history. This faculty has to be cultivated; it does not come naturally. In early grades children are asked to see the world through the eyes of great explorers, great Americans, and people of other times.	A series of exercises in historical reconstruction and imagining	Episodes of modern history exercise the historical imagination.

HISTORY	PREVIOUS GRADES	GRADE FIVE	GRADE SIX
Civilization: its nature, rise and fall	Civilization is a major concept. We learn to recognize its features, and its strengths and weaknesses. In early grades children begin to recognize the difference between civilized and precivilized societies.	The ebb and flow of civilization is a major theme of *The Human Adventure*. Students should recognize various factors that influence the destiny of any civilized society.	We study the diffusion of the Western type of civilization during the modern age of expansion. We see other branches of civilization destroyed or challenged. Are we on the threshold of a world-wide civilization? Or will civilization once more ebb and decline?
Historical evidence and its evaluation	Records are not easy to interpret correctly. They may be misleading, or the interpreter may distort them. In early grades, pupils are introduced to simple problems of evidence. E.g: Who "discovered" America? What were the rights and wrongs of the American Revolution or of the Civil War? etc.	Serious introduction to historical evidence, reconstruction, and evaluation. Contrast between documentary evidence and artifacts discovered by archaeologists. Comparison of simple evidence, e.g., the story of the flood in *Gilgamesh* and in *Genesis*, etc. The art of a culture as clue to understanding the people and their ideas	The lessons of Grade Five are deepened in studies of Renaissance Italy, the pros and cons of the Reformation, of nationalism and imperialism, the destruction of evidence as in the Spanish treatment of Maya and Aztec records, etc., etc.
Interpretations of history, including problems of causation. (See also *Philosophy*: "Techniques of critical thinking")	Even if we get the evidence correct, we may not know how to fit it into a logical pattern or a correct sequence of cause and effect. Historians continue to disagree in their interpretations of major events and phenomena. E.g: how *bad* was American slavery? What are the results of industrialization? What caused the Civil War?	The student begins to face some cruces of historical interpretation. Why did a given civilization decline? Why did people in Sumer obey the priests? Why does Chinese history look as it does to a Chinese historian? Was the Greco-Roman or the Judeo-Christian view of history more correct? What was the Muslim view of Moses and Christ? etc.	More cruces of interpretation: the Judeo-Christian and Greco-Roman tension; the causes of the Reformation; national bias in history; Western or non-Western bias; liberal and conservative interpretations of the French Revolution; Marxist ideas of class war; etc.

DIRECTORY OF RESOURCE MATERIALS

KEY	Producer
ABF	Arthur Barr Productions, Inc. 1029 North Allen Avenue Pasadena, California 91104
AEV	Aevac, Inc. 500 Fifth Avenue New York, New York 10036
AF	Academy Films *Order from:* Henk Newenhouse, Inc. 1825 Willow Road Northfield, Illinois 60093
AFL-CIO	American Federation of Labor and Congress of Industrial Organizations Film Division-Department of Education 815 Sixteenth Street, N.W. Washington, D.C. 20006
AN	Australian News and Information Bureau 636 Fifth Avenue New York, New York 10020
ASF	Association Films, Inc. 324 Delaware Avenue Allegheny County Oakmont, Pennsylvania 15139
ATMI	American Textile Manufacturer Institute, Inc. 1120 Connecticut Avenue, N.W. Washington, D.C. 20036
BFA	BFA Educational Media 2211 South Michigan Avenue Santa Monica, California 90404
BRF	Brandon Films, Inc. 221 West 57 Street New York, New York 10019
CAP	Capitol Records Distributing Corporation 1290 Avenue of the Americas New York, New York 10013
CC	Charles Cahill and Associates, Inc. *Order from:* Henk Newenhouse, Inc. 1825 Willow Road Northfield, Illinois 60093
CF	Contemporary Films, Inc. 828 Custer Avenue Evanston, Illinois 60602
CHF	Churchill Films *Order from:* Henk Newenhouse, Inc. 1825 Willow Road Northfield, Illinois 60093
CM	Curriculum Materials Corporation 1319 Vine Street Philadelphia, Pennsylvania 19107
CON	Concordia Publishing Company 3558 South Jefferson Street St. Louis, Missouri 63118
COR	Coronet Films Coronet Building 65 E. South Water Street Chicago, Illinois 60601
CW	Colonial Williamsburg, Inc. Filmstrip Distribution Section Box C Williamsburg, Virginia 23185
DCA	Educational Products, Inc. 4865 Stenton Avenue Philadelphia, Pennsylvania 19144
DD	Doubleday & Company, Inc. 501 Franklin Avenue Garden City, New York 11531
EA	Educational Activities, Inc. Freeport, Long Island, New York 11520
EBE	Encyclopaedia Britannica Educational Corporation 425 North Michigan Avenue Chicago, Illinois 60611
EGH	Eye Gate House, Inc. 146-01 Archer Avenue Jamaica, New York 11435
ETS	Educational Testing Service Cooperative Test Division 20 Nassau Street Princeton, New Jersey 08540
FA	Film Associates of California 11559 Santa Monica Boulevard Los Angeles, California 90025

KEY	Producer
FH	Filmstrip House 432 Park Avenue South New York, New York 10016
FI	Films Incorporated 1150 Wilmette Avenue Wilmette, Illinois 60091
FMC	Ford Motor Company Film Library The American Road Dearborn, Michigan 48121
FSR	Folkways/Scholastic Records 906 Sylvan Avenue Englewood Cliffs, New Jersey 07632
HMN	Hearst Metrotone News 4 West 58 Street New York, New York 10019
HN	Henk Newenhouse, Inc. 1825 Willow Road Northfield, Illinois 60093
ICF	International Communications Foundations 870 Monterey Pass Road Monterey Park, California 93940
IFF	International Film Foundation, Inc. 475 Fifth Avenue Suite 916 New York, New York 10017
IMP	Imperial Film Company, Inc. 321 South Florida Avenue Lakeland, Florida 33802
IND	Audio-Visual Center Indiana University Bloomington, Indiana 47405
ISI	Information Service of India Film Section 3 East 64 Street New York, New York 10021
JA	Jackdaw Publications *Order from:* Grossman Publishers, Inc. 125a East 19 Street New York, New York 10003
JG	John W. Gunter, Incorporated Curriculum Materials Post Office Box G San Mateo, California 94403
JH	Jam Handy Organization 2821 East Grand Boulevard Detroit, Michigan 48211
LF	Life Filmstrips Time and Life Building Rockefeller Center New York, New York 10020
LYR	Lyrichord Records 141 Perry Street New York, New York 10014
MGH	McGraw-Hill Book Company Text Film Division 330 West 42 Street New York, New York 10036
MI	Milliken Publishing Co. 611 Olive Street St. Louis, Missouri 63101
MLA	Modern Learning Aids Division of Modern Talking Picture Service, Inc. 1212 Avenue of the Americas New York, New York 10036
MM	Mass Media Associates 2116 N. Charles Street Baltimore, Maryland 21228
MTP	Modern Talking Picture Service, Inc. 1212 Avenue of the Americas New York, New York 10036
NFBC	National Film Board of Canada 680 Fifth Avenue New York, New York 10020
PCH	Pictorial Charts Educational Trust *Order from:* Social Studies School Service 10000 Culver Boulevard Culver City, California 90230
PN	Pathe News, Inc. 58 East 13 Street New York, New York 10003
PSP	Popular Science Publishing Company McGraw-Hill Text Films 330 West 42 Street New York, New York 10036

KEY	Producer
REM	Remington Rand *Order from:* Henk Newenhouse, Inc. 1825 Willow Road Northfield, Illinois 60093
RI	Riverside Records 235 West 46 Street New York, New York 10036
SEF	Sterling Educational Films 241 East 34 Street New York, New York 10016
SOC	Social Studies School Service 10000 Culver Boulevard Culver City, California 90230
SVE	Society for Visual Education 1345 Diversey Parkway Chicago, Illinois 60614
TMC	3M Company Visual Products Division Bldg. 220-10E 2501 Hudson Road St. Paul, Minnesota 55119
VAL	Valiant I.M.C. 237 Washington Avenue Hackensack, New Jersey 67601
VEC	Visual Education Consultants, Incorporated 2066 Helene Street Madison, Wisconsin 53704
WASP	Warren Schloat Productions, Inc. Palmer Lane West Pleasantville, New York 10570
YC	Yale Chronicles and Pageant Program United States Publishers Association 386 Park Avenue South New York, New York 10016
YLP	Your Lesson Plan Filmstrips, Inc. 1319 Vine Street Philadelphia, Pennsylvania 19107
YUP	Yale University Press 386 Fourth Avenue New York, New York 10016

CHRONOLOGY – PREHISTORY

		c. 10,000,000,000 to 3,000,000,000 B.C.	Formation or creation of the earth
		c. 2,000,000,000	Beginning of life
		c. 600,000,000	Algae, jellyfish, sponges, snails
		c. 500,000,000	Worms, starfish
		c. 400,000,000	Fish, ferns, aquatic plants
		c. 300,000,000	Amphibians (frogs, toads) and insects
		c. 200,000,000	Reptiles (dinosaurs, turtles, snakes) and birds
		c. 100,000,000	Mammals, grass, land trees
		c. 14,000,000	Ramapithecus (primate)
PLEISTOCENE PERIOD OR ICE AGE (about 1 1/2 to 2 million years)		c. 4,000,000	Olduvai primates (near-men)
	PALAEOLITHIC (OLD STONE) AGE	c. 1,000,000	"Man" uses fire
		c. 500,000	Java man (variety of *Homo erectus*)
		c. 360,000	Peking man (variety of *Homo erectus*)
		c. 150,000 to 35,000	Neanderthal man (form of *Homo sapiens*)
		c. 50,000	Cro-Magnon man
		c. 8000	End of Ice Age
MESOLITHIC AND NEOLITHIC PERIODS		c. 8000 to 6500	Beginnings of agriculture
		c. 4000	Agriculture, domesticated animals, polished stone tools
		c. 3500	Rise of civilization in Sumer

TIME LINE FOR THE EBB AND FLOW OF CIVILIZATION

c.	3500 B.C.	Rise of civilization in Sumer
c.	3100	Rise of civilization in Egypt
c.	2850	First soldier kings in Ur (Sumer)
c.	2500	Rise of civilization in the Indus River Valley
c.	2350	Sargon the Akkadian
c.	2000	Rise of civilization in Crete (Minoans); Decline of Sumerian civilization
c.	1800	Rise of Hittite Empire
c.	1730	Hyksos conquer Egypt
c.	1700	Hammurabi the Babylonian The chariot invaders
c.	1500	Aryans conquer and destroy Indus River Valley civilization
c.	1465-1165	Egyptian Empire period
c.	1400	Rise of civilization on Yellow River in northern China Early Assyrian Empire Iron weapons
c.	1385-1190	Height of Hittite Empire
c.	1100	Rise of Later Assyrian Empire
c.	745-612	Height of Assyrian Empire
c.	612-606	Assyrians overthrown by Medes and Scythians from without and Babylonians from within
c.	550	Cyrus the Persian
c.	525	Persians unite all of Middle East

INTRODUCTORY INQUIRY ACTIVITY FOR *ANCIENT CIVILIZATION*

Display the four books: *Ancient Civilization, Four World Views, Greek and Roman Civilization, Medieval Civilization.* Explain that these are the social science books for Grade 5 and that they are part of a series called *The Human Adventure.* Ask, "What is an adventure? What do you think *The Human Adventure* is about?" Encourage comment on the title and cover illustration of each book. Ask, "What word appears in the title of three of these books? What do you think civilization means? Which book tells about the oldest civilization?"

Distribute copies of *Ancient Civilization* and tell students that they will begin their study of *The Human Adventure* with this volume. Have them turn to the Contents. Ask, "What is the Preface of this book about? Which chapter makes you think of a detective's work? Which chapters tell about people in a place called Sumer?" (Help students pronounce unfamiliar words in chapter titles.) "Which part of the book will help you to learn the meanings and pronunciations of many words in *Ancient Civilization*?" Let students look up "Sumer" in the Glossary and read its definition.

Have the class read "A Note to Students," that appears in the beginning of the text, and explain the significance of the marks ►, ●, and ★. Let students find a few examples of these marks in the text.

PREFACE

Locating Ourselves in Time and Space

Text pages 1-17

The Preface attempts to set the stage for *The Human Adventure* by teaching the students how to locate themselves historically—that is, in any given time in history—and geographically—that is, at any given place on the face of the earth. The ability to locate oneself in historical time requires the acquisition of a new skill. The ability to locate oneself geographically involves the further development of skills and understandings acquired in earlier grades of ERCSSP.

Text Outline

A Topsy-Turvy World
An Adventure Through the Looking Glass
Using the Earth as a Clock: Rotation and Revolution
How We Number the Years
How We Number the Centuries
Locating Ourselves in Time
Locating Ourselves in Space: Grid Lines
Locating Places on the Globe: Latitude and Longitude
Here We Go in Time and Space!

	CONCEPTS	**OBJECTIVES** Questions to be developed*
	Time measurement	Why do we measure time? What names do we give to various lengths of time? What is our starting point in measuring time? What is a time line?
	Earth science in relation to concepts of time	What is the role of geography in the study of time? What is the meaning of the term rotation? Revolution?
	Latitude; longitude	How can a person locate himself on the face of the earth?

Behavioral Indications: **Discussion of these questions and problems will demonstrate whether students understand the concepts and can apply them to the material presented in this chapter. The questions may also be used for review and evaluation.*

BACKGROUND INFORMATION

See pages 111-121 for *Resources.*

TERMINOLOGY

Up to this point in ERCSSP no attempt has been made to explain historical time, although occasional dates such as 1776 and 1492 have been mentioned. Now the student should begin to learn the units and loci of time measurement, and something of the idea of periods of history. He should be able to understand a "time line," and he should know the meaning of B.C. and A.D. and of year, decade, century, and millennium. These terms—decade, century, and millennium—should become part of the student's working vocabulary. The student should always use the correct name of a century. He should not talk about "the 1700's," but should refer to "the eighteenth century." There are two very good reasons for this precision: First, it would be confusing if he used the phrase "the 1700's" to describe a whole century, when he uses the phrase "the 1960's" to describe a decade. Second, in dealing with dates B.C., "the 500's" would be misleading, whereas "the sixth century B.C." (600-501 B.C.) is quite clear.

The second half of the Preface reviews grid lines, latitude, the rotation and revolution of the earth, and introduces the use of longitude. The teacher should make sure that the pupil really understands the following terms: latitude, longitude, rotation, and revolution.

Latitude—Latitude refers to distance north or south of the equator. This distance is measured in degrees from 0° at the equator to 90° at the north and south poles. On a globe or a map, latitude is represented by lines that run east-west. On a globe these lines are circles that are parallel to one another. Thus the lines are often called parallels of latitude.

It is suggested that the teacher review the geographic concepts dealing with grid lines and latitude presented in ERCSSP for Grade 4.

Longitude—Longitude refers to distance east or west of a selected longitude. We call this selected longitude "zero degree longitude." Distances east and west of zero degree longitude are represented on a globe or a map by lines that run from the north pole to the south pole. The zero degree longitude is called the prime meridian. Lines of longitude therefore measure distance in degrees east and west of the prime meridian. There are 360 degrees of longitude: 0°-180° E and 0°-180° W. The 180th meridian is exactly opposite the prime meridian, and thus is the same for east and west.

Rotation—The earth rotates on its axis once in 24 hours. This axis is tilted at an angle of 23 1/2 degrees from the vertical. The rotation of the earth causes night and day.

Revolution—While the earth is rotating on its own axis, it is also revolving around the sun. Revolution causes the seasons and gives us our yearly cycle. One complete revolution takes 365 1/4 days.

RELATION OF EARTH SCIENCE TO TIME

Without the rotation of the earth we would not have day and night; without the revolution of the earth we would not have seasons and the year. Our concept of time is largely geared to these phenomena, and it is interesting to speculate what notions of time and change we might have had on a different planet or in a different solar system. Thinkers and scientists have hinted that in outer space time as we know it does not exist. Certainly, in measuring the space of the universe, scientists must use a different system, based on "light years" and often millions of light years. A light year equals the distance light travels in an earthly year; the speed of light is 186,000 miles per second. Even geological time must use a much broader scale than the millennia and centuries of historical time, since the earth is estimated to be between 3 and 10 billion years old.

Another interesting aspect of time is its relation to the speed of change in human life. *Homo sapiens* lived on the earth for almost 100,000 years before he discovered agriculture; then it took approximately 4,000 years before he discovered civilization. Since that time the speed of change has varied, although on the whole it has been accelerating. Since the rise of modern industry and technology, the rate of change in advanced societies has doubled in each successive decade. There is no sign of deceleration of this trend, but of course there is no guarantee that it will last. Clearly, when changes are occurring quickly, the measurement of time in small units is far more important than is the case in societies where change is slow or even imperceptible.

PERIODIZATION OF HISTORY

It is convenient to divide history into periods, although these must be recognized as artificial categories introduced to help us classify events. The classification used by most Western historians is as follows:

1. **Prehistory** (i.e., events before written records existed) roughly to about 3500 B.C. in the Middle East, but later in other parts of the world.

2. **Ancient history**: to about 500 B.C.

3. **Classical history**: from about 500 B.C. to the looting of Rome by the Visigoths in A.D. 410. Some would extend this period in the eastern Mediterranean, where Constantinople (the center of the Eastern Roman Empire) carried on the classical tradition for several centuries.

4. **The Middle Ages**: from the fall of Rome to the fifteenth century A.D. This term comes to us from the Renaissance, when the period from the fall of Rome to the "rebirth of learning" in Italy was regarded as an uncivilized period *between* two periods of civilization.

5. **The Modern period**: from the fifteenth century to the present. Some would date the modern period from the fall of Constantinople (1453), others from the Italian Wars (1494), others from the discovery of America (1492). Certainly, from the Western point of view, a clear change occurs in the fifteenth-sixteenth centuries with the rise of "modern science," the revival of classical learning, the discoveries, the Reformation, and the emergence of European nations and powerful governments of nation-states.

6. Possibly, a new period, **the recent and contemporary period**, should be considered, beginning roughly in the second quarter of the twentieth century. But this is very arbitrary, and we are too close to recent events to decide whether a major change like that between the classical and medieval, or between the medieval and modern periods, is now occurring.

The objection to these conventional periods is that they are the result of viewing world history from a purely Western point of view.

Professor William H. McNeill in *The Rise of the West* adopts a less limited category. His periodization is as follows:

1. **The Era of Middle Eastern Dominance**: to 500 B.C.

2. **The Eurasian Cultural Balance**: 500 B.C. to A.D. 1500.

3. **The Era of Western Dominance**: A.D. 1500 to the present.

More intricate subdivisions may be obtained from the study of Professor McNeill's highly original pages. Since Professor McNeill's basic propositions form the foundation on which the ERCSSP program for Grades 5 and 6 is constructed, the teacher is strongly advised to consult *The Rise of the West* for detailed information.

An awareness of periods of history gives the student a framework within which to organize his knowledge. However, this framework is not purely arbitrary. Each period, when correctly understood, is marked by certain major characteristics. The student should learn, gradually, to identify these characteristics in order to recognize a particular document, piece of art, or mode of thought as typical of a given culture at a given period of time.

SUGGESTIONS FOR TEACHING

The main purpose of the Preface is to prepare students for the study of past civilizations by helping them to acquire the basic skills and knowledge necessary to locate themselves historically (in time) and geographically (in space). In the study of a particular civilization (for example, Sumer), it is essential that students be able to tell *where* they are on the face of the earth and *when* they are there. To locate places on the earth's surface requires map and globe skills, especially knowledge of the use of latitude and longitude lines. To locate places and events in time, students must learn how time is measured. In this regard, it is important that they understand the relation of earth science to concepts of time.

The concepts introduced in the Preface are complex, and their development requires a great deal of teacher guidance; students should not be expected to master this material by themselves. Use of varied teaching devices is encouraged; the teacher should review films, filmstrips, books, and other resources well enough in advance to determine their value in attaining the stated objectives for the Preface.

The excerpt from *Alice Through the Looking Glass* is optional material that is included to suggest one way of approaching the problem of chronology.

INTRODUCTORY INQUIRY ACTIVITY

? To introduce the idea of measuring time, display the following items (or pictures of same): sundial, hourglass, clock, watch, calendar. Have students tell something about each. Ask, "In what way are all of these things alike?" (They are used to measure or record time.) "Why do we need to measure time? What lengths of time are measured by clocks and watches? By hourglasses? Sundials? Calendars?" (As measures of time are mentioned by students, list them on the board.) "Which things measure the shortest lengths of time? The longest?"

At this point, have students arrange the terms according to the length of time named, e.g., from *second* to *year*, or vice versa. Ask, "What term would you use to refer to a period of 24 hours? 60 minutes? 30 days? 12 months? 10 years? 100 years? 1000 years?" The class may formulate questions about the terms it needs to learn in order to refer to the longer periods of time mentioned above. A student may copy these questions on a chart for future reference.

NOTES ON QUESTIONS

Page 4: ?

- Alice was mixed up, of course, because she found herself in a world in which time was backward. Punishment was meted out before the crime was committed; bandages were put on before the accident happened, etc. Since ours is an orderly world, at least as far as time is concerned, we do not have to cope with such problems. (Answers to the last three questions will vary according to the students' experiences.)

● People and things—such as writing—look backward in a looking glass. Naturally, in Alice's looking-glass world, time was also backward. (If you wink your *right* eye at a mirror, your mirror image winks its *left* eye!)

Page 5: ► The rotation of the earth toward the east.

► The earth's rotation and its revolution around the sun.

► The earth completes one rotation every day. A day is divided into 24 hours.

► The earth completes one revolution every 365 1/4 days.

Page 6: ● The earth's rotation causes night and day.

? ★ A season is one of the distinct periods into which the year may be divided, usually in terms of the duration of daylight and of climatic conditions, caused by changes in the duration and intensity of sunlight. These changes are caused by the 23 1/2° tilt of the earth's axis as it revolves around the sun. The tilt of the earth's axis is also responsible for the reversal of seasons between the southern and northern hemispheres, and for the seasonally changing lengths of day and night in the higher latitudes of both hemispheres. Students should be able to explain (perhaps demonstrate with diagrams and/or models) the relation between the earth's changing position in its orbit as it revolves around the sun and the corresponding seasonal changes.

? ★ A leap year is a calendar year of 366 days (the extra day is added to the month of February). Although the solar year actually has 365 1/4 days, a regular calendar year records 365 days. Every four years a full day is added to the calendar year (making a "leap year" of 366 days) to make up the difference.

Page 7: ► 40 years are 4 decades.

► 750 years are 7 1/2 centuries.

● 6,000 years are 6 millennia.

? ● Generally speaking, we tell our ages in years. We can use millennia to talk about how long ago cave men lived. We might use centuries to refer to how long ago Columbus landed in America. We might use decades to describe how long ago the airplane was invented.

? ● A variety of terms permits more precise and more understandable references to time. It is easier to speak of fifty revolutions of the earth in terms of decades or years rather than months, weeks, days, minutes, or seconds, yet it is possible to use all of these terms to measure that length of time. It might be interesting to ask the pupils if they say 1/6 of an hour or 10 minutes, a week or 7 days, a month or 30 or 31 days.

Page 8: ► Filling in the blanks appropriately, A.D. 19(70) means "in the year of our Lord, nineteen hundred and seventy."

★ C.E. stands for Common Era and may be used instead of A.D.

? ● The difference, of course, is that there is no year zero on a time line.

► This is a simple exercise to familiarize the students with locating a date on a time line. (This time line covers 3,000 years or 30 centuries or 3 millennia.)

Page 9: ► 14th century A.D. = A.D. 1301-1400
9th century A.D. = A.D. 801- 900
6th century A.D. = A.D. 501- 600

► 8th century B.C. = 800- 701 B.C.
13th century B.C. = 1300-1201 B.C.
5th century B.C. = 500- 401 B.C.

Page 10: ► A.D. 1492 is in the 15th century A.D.
331 B.C. is in the 4th century B.C.
A.D. 1776 is in the 18th century A.D.
A.D. 1066 is in the 11th century A.D.
1350 B.C. is in the 14th century B.C.
A.D. 1861 is in the 19th century A.D.

► A.D. 1970 is in the 2d millennium A.D.
903 B.C. is in the 1st millennium B.C.
2500 B.C. is in the 3d millennium B.C.
A.D. 807 is in the 1st millennium A.D.

► Central City is located at B-3; North Rapids at A-2; East Central City at B-5.

Page 11: ? ● There are no lines or points of reference on a ball, no top, bottom, east, west, north, or south. Fixed points of reference are needed to establish a location.

► One should be able to see most of the lands in the northern hemisphere, nearly as far south as the equator.

Page 12: ● No. The lines on the globe that cross the parallels run north and south.

Page 14: ► The lines shown are called lines or parallels of latitude, running east-west.

? ● We will draw a circle; parallels of latitude are circles on a globe.

► The lines shown are called meridians or lines of longitude, running north-south.

? ● We will draw a circle; meridians are circles on a globe.

► Pupils should identify the lines measuring the degrees east and west of the prime meridian as meridians of longitude. These lines run north and south on the globe from pole to pole. The parallels of latitude run east and west on the globe and measure the degrees north and south of the equator.

► The prime meridian is identified on the globe as the zero degree line of longitude, which runs through Greenwich, England.

► The latitude of place X is 35° N. The longitude of place Y is 45° E. The latitude and longitude of place Z are 30° N, 35° E.

? ● The city of Baghdad is located closest to (b) 35° N, 44° E.

Page 15: ● Cairo is located near 30° N, 30° E.

? ● Los Angeles is located at about the same latitude as Baghdad.

? ★ *Parallel* lines extend in the same direction and are equidistant at all points. Lines of latitude extend around the globe parallel to the equator. For this reason they are called parallels of latitude.

? ★ When the sun reaches its apogee (highest point in the sky) over any given longitude, the time is exactly noon everywhere along that particular line of longitude. In other words, every place on the same line of longitude has the same time. It is for this reason that the lines of longitude are called meridians—meridian being a Latin word meaning the middle of the day.

The earth is divided by meridians into 24 Standard Time Zones (adopted in the 1880's); they are based on the principle that every 15 degrees of longitude makes a difference of one hour (360 divided by 24 = 15).

In 24 hours the earth rotates through 360 degrees, or 15 degrees for every hour. As mentioned above, the Standard Time Zones of the world each contain 15 degrees of longitude.

? Time is usually reckoned from the prime meridian (meridian passing through Greenwich, England). When it is noon on this meridian, it is midnight exactly 180 degrees east or west of it (or, exactly on the opposite side of the earth). Time advances one hour more for every 15 degrees east of Greenwich, and is one hour less for every 15 degrees west. Thus it is possible to calculate the time of day or night of a place on any given meridian by reckoning its distance east or west of Greenwich, e.g., when it is noon at Greenwich, it is 10:00 a.m. at every place 30 degrees west of Greenwich, 3:00 p.m. at every place 45 degrees east of Greenwich, and 10:00 p.m. at every place 150 degrees east of Greenwich.

ACTIVITIES

Students may use ideas and diagrams presented in the text to help them prepare the following:

Pictures that contrast time in Alice's Looking-Glass World to time in their world. For example, one drawing, illustrating Alice's world, might show (1) the punishment of a crime and (2) the actual crime. The reverse situation would illustrate time in their own world. This exercise, while being fun, can also help the students acquire a sense of proper order and sequence.

Diagrams to show the rotation and revolution of the earth, day and night, the seasons.

Diagrams to show comprehension of latitude and longitude. A set of overlays may be used effectively here (globe; globe showing North and South Poles, equator, tropic lines; globe showing lines of latitude; globe showing prime meridian; globe showing lines of longitude). Latitude lines may be shown in one color, longitude lines in another.

Time lines marked and labeled to show 30 B.C. to A.D. 30, 700 B.C. to A.D. 700, and 2000 B.C. to A.D. 2000. The terms "year," "decade," "century," and "millennium," should be used to name the periods of time shown.

To help students understand the relation of the earth's movements to time, have them examine a current calendar and comment on the following:

How many months does this calendar show? Days? Years?

How many months are in each year? Days in each year?

How do you think men got the idea of measuring time in days, months, and years?

At this point, call attention to a chart showing the earth orbiting the sun. Let students explain the earth's movements as shown on the chart. Some may use a globe (an unshaded light bulb makes an adequate "sun") to demonstrate the rotation of the earth on its axis and the revolution of the earth in its orbit around the sun. Make sure students remember to tilt the earth on its axis as it orbits the sun. Ask,

How many hours are in a day (actually, the day-night cycle)?

What movement of the earth helps us measure days? How?

How long does it take the earth to complete one orbit around the sun?

What movement of the earth helps us measure months and years?

How do the movements of the earth as it spins on its axis help us measure time?

What do we mean when we say that the earth is a clock?

Discuss the importance of placing events in their correct order of occurrence, e.g., the discovery of the New World by Columbus and Spanish settlements in the New World; the invention of the steam engine and the Industrial Revolution. Help the student realize that if he fails to grasp the chronological sequence of events, he cannot begin to understand any possible cause-and-effect relationship between them.

Introduce the idea of "anachronism." Anachronism means putting something in a time in which it does not belong. Students can be asked to give amusing examples of anachronisms. They can test one another by asking questions beginning, "What would be wrong with . . .?" Here are some simple examples:

What would be wrong with . . .

a. a picture of Marco Polo on the bridge of a steamship?

b. Abraham Lincoln asking Congress to vote money for the Air Force?

c. a speech by George Washington beginning "This Union of 50 states . . ."?

d. Christopher Columbus saying, "It's about time we discovered America"?

e. Robin Hood drawing his revolver to shoot the Sheriff of Nottingham?

? Students may discuss the following: Which is the first year of the twentieth century—1900 or 1901? Make sure that they comprehend that the correct answer is 1901 because the whole of the year 1900 is the 100th year of the nineteenth century, just as A.D. 100 was the 100th year of the first century. Students may compare the way each person's life is similarly divided into years that do not match the names of his birthdays.

To review the terms "decades," "centuries," and "millennia," have each student write on a sheet of paper one time period, such as 5 decades, 2 centuries, 3 millennia. These slips can be put in a box, and each student can pull out a time period which he must calculate in years. The same exercise can be used to classify dates in their proper centuries and millennia (e.g., A.D. 1902 in the twentieth century A.D.).

? After indicating time zones on a globe, students may discuss the problem of making a telephone call from New York to San Francisco or from New York to Tokyo. Show how the caller must calculate the time at the other end of the line if he wants to make sure that the recipient will be available—or in a good temper. Another approach to this topic is reference to airline schedules, comparing the departure and arrival times of flights from New York to Los Angeles, and vice versa.

? Prepare a time line of the local community—date of first settlement, first railroad, charter of incorporation, building of city hall, etc.

? Prepare a time line of important national and world events in their own lifetime, such as presidential elections, earth orbits, wars, etc.

? Collect pictures or samples of objects used to record time. Label each and describe its use.

As the course goes on, a time line should be developed along the classroom wall, with large, clear references to major periods and events. If possible, clippings of pictures, or sketches done by the students, should be posted on the time line to illustrate events or periods.

Use an atlas, a world map, or a globe to review the use of latitude and longitude in locating places on the earth. Students might practice finding the latitude and longitude of major American cities such as New York, San Francisco, Chicago, Cleveland, New Orleans, etc.

CHAPTER 1

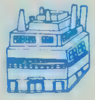
Man's Great Leap Forward

Text pages 19-33

This chapter details the processes involved in man's struggle to move from primitiveness to civilization. Early man was very limited by his natural environment, but as he became more inventive and far-seeing, he learned to control his environment and to adapt it to his uses. Finally, by producing a surplus, achieving a division of labor, and building cities, man became civilized.

Text Outline

Man the Food-Gatherer and Hunter
The Move to Mesopotamia
Man the Producer of Food
Man the Tamer of Animals
Herders and Farmers
More Discoveries
The Move to Sumer
Man the Maker of Surplus
Man the Specialist
Man the Builder of Cities
Civilization – The Great Leap Forward

	CONCEPTS	**OBJECTIVES** Questions to be developed*
	The interplay of man and natural environment	How does natural environment influence where and how people live?
		What was the relation of earliest men to their natural environment?
		How did men first begin to change their natural environment?
		How did men in the southern half of ancient Mesopotamia develop new ways of handling the special problems of their natural environment?
		How did man's increasing control over his natural environment result in the development of the world's first civilization?
	The nature of primitive societies	How did early man organize his society?
	The achievement of a surplus and its relation to the rise of civilization	Why is surplus necessary to the rise of civilization?
	The division of labor and its relation to the rise of civilization	Why is division of labor necessary to the rise of civilization?
	The rise of cities and its relation to the rise of civilization	Why is the rise of cities necessary to the rise of civilization?
	The meaning of civilization	What are the prerequisites of civilization?

Behavioral Indications: **Discussion of these questions and problems will show whether students understand the concepts and can apply them to the material presented in this chapter. The questions may also be used for review and evaluation.*

BACKGROUND INFORMATION

See pages 111-121 for *Resources.*

GEOGRAPHY AND HISTORY

The social sciences are concerned with several basic relationships: the relation between each human being and his or her fellows, the relation between groups of human beings and other groups, the relation between human beings and the forces—divine or natural—that control the universe, and the relation between human beings and their environment. Of these the last is perhaps the simplest, as it is also, in certain ways, the most fundamental. Environment is of two kinds: (1) the natural environment; (2) the cultural, or man-made, environment. Both types of environment are the object of the discipline called geography.

Before we can understand the history and social arrangements of any human society we must appreciate its geographic environment—its natural and its cultural environment as affected by successive human efforts. Natural environment is important but not decisive in explaining a given culture. Men always do things to their natural surroundings. They cause change in an area either by adding something new or taking something away. Furthermore, the number of people who live in a particular area and how these people are distributed over the land play an important part in what men do with their natural surroundings. These factors—what men do with an area, how many men do it, and where their actions take place—are known as the "cultural geography" of a particular region.

Even under identical circumstances, men may react in different ways. As a result, the physical features of a region will be viewed and exploited differently by different groups of people and even by the same group at varying stages in the group's development. For example, people lived in southern Mesopotamia before the coming of the Sumerians. While these earlier people used the same mud and marsh reeds to build huts and boats, they did not irrigate the land. Human society also does not remain static. Social, political, and economic events cause changes in the way of life of a society. When this happens, the relation between men and their natural environment is altered again and again. We must help the fifth grader understand the truly difficult concept of an ever-changing—not a fixed—relation between man and his natural environment. At the same time, we need to help him see that man is not only responsive to his natural environment, but is often the greatest single force in influencing his natural environment.

The rise of civilization in Sumer is an illustration of this concept. First, we examine some important aspects of the *physical* geography of southern Mesopotamia. Then we can consider what the Sumerians did with this area by examining the *cultural* geography of Sumer—how men's work changed the land. After we examine the social, political, and economic events that changed Sumerian culture, we can see how widespread changes in culture can change man's attitude toward the natural environment.

While considering these concepts, we should recognize that the scope of geography has changed through the years. For a long time, many scholars divided geography sharply into two separate parts—physical and cultural. This older definition was outmoded as geography came to include the study of the role of social change in affecting environment. In other words, geography and history are inseparable.

THE MIDDLE EAST

The term "Middle East" is difficult to define because its definition has varied through the years. In the thirteenth century, Europeans considered the "East" to include all lands east of their own particular continent. The vague term "Levant," later used by Western Europeans, also referred to lands east of Europe. For our purposes, it is sufficient to know that the following present-day countries are generally included in the Middle East: United Arab Republic (Egypt), Israel, Lebanon, Jordan, Syria, Turkey, Iraq, Iran, Saudi Arabia. According to our present knowledge, it was in this part of the world that the earliest civilization developed. It was in this area also that three great world religions—Judaism, Christianity, and Islam—originated.

Sometimes the term "Near East" is used to describe the Middle East. In some ways this is preferable from a European standpoint. However, "Middle East" brings out the centrality—the "crossroads of the world"—aspect of the area.

The Middle East has occupied a crucial location throughout history. It was the place where civilization originated and from which it appears to have diffused in all directions. It was, and is, the place where many differing cultures impinge upon one another: Asian, European, and African. It was for many centuries the route through which all trade between East and West had to pass, and is still a vital link for sea transport (Suez Canal) and air routes. It has often been, and still is, of acute strategic importance. Consider the ancient wars of Sumer, Babylon, Assyria, Egypt, and Persia; the wars between the Greeks and Persians; Alexander's conquests; the wars between the Roman and Persian empires; the crusades; the Mongol invasions; the later struggles between Islam and the West; the conflict between Russia and Western European powers after the decline of the Ottoman Empire; the invasion of the Middle East by the Allies in World War I; the struggle for the Middle East in World War II; the attempt of the USSR to retain control of northern Iran in 1947; and, more recently, the conflict between Israel and the Arab States, and among Russian, American, British, and French influences in the area.

POPULATION, GEOGRAPHY, AND TECHNIQUES OF PRODUCTION

The world's population today is more than 3 billion and is increasing rapidly—more rapidly than ever before. This fact constitutes one of the most serious problems facing mankind at the present time. Notice, however, that the "population problem" is not an absolute or isolated problem. The population that can be supported at a reasonable standard in a given area or in the whole world is no doubt ultimately limited, but within wide bounds it is relative to the skills and techniques of human society. Food-gathering and hunting are clearly the most inefficient ways of using the land and its resources. Agriculture is much more efficient; certain types of agriculture are more efficient than others. Industrialization and applied science, capital investment, and the exploitation of new sources of power or production (solar power, cultivation of food in seawater) increase still further the number of people who may be supported in the world.

Notice, however, certain physical facts. Almost 197 million square miles make up the entire surface of the earth. Yet people cannot live everywhere on the earth's surface. More than seven-tenths of all this vastness, about 138 million square miles, is covered with water. Less than three-tenths of the earth's surface stands above the sea. Still, the part that is land is a tremendous area of about 59 million square miles.

Can people live everywhere on the part of the earth's surface that is land? People need warmth. They need light. They need water. People have always needed to find ways of obtaining food: to gather berries, to hunt animals or to catch fish, to maintain herds, or to grow crops.

Three-tenths of the earth's land is permanently frozen, covered with ice and snow all year round. Almost all of these areas are too cold for crops and too bleak and desolate for people.

Another three-tenths of the earth's land is too arid to meet ordinary human needs.

Some crop growing and grazing are possible in these areas, but only on a limited scale.

What is really left for people? All that remains is four-tenths of the earth's land, where most of the earth's 3 billion people can live. Land is not just a matter of square miles; it is a resource. Some areas are more desirable than others. Some areas are too wet; others so hot that water evaporates too rapidly. Some land slopes so steeply that it cannot be used. Other land has such infertile soil and such poor drainage that food cannot be grown with much success. Only 8 per cent of the world's land is believed to be suitable for growing crops. People have always lived where they can provide themselves with food, clothing, and shelter. They move from areas where there is less opportunity for meeting human needs to areas where there is greater opportunity. Today, 60 per cent of the people on the earth live on 5 per cent of its land.

THE WORLD BEFORE MAN

People everywhere have always been fascinated with the story of life and have long tried to explain how life first began. Closely interwoven with these explanations is the story of how the earth came to be and what the universe was like. Many answers have been advanced.

As recently as 100 years ago, many people believed that the earth and human beings were just a few thousand years old and were unchanged from the time of their creation. Today we know that the earth is 3 to 10 billion years old and that vegetable and animal life existed for millions of years before men appeared. Scientific findings, especially from the fields of geology and biology, have taught us that both the earth's surface and its animal and vegetable life have changed and are still in the process of changing.

HOMO SAPIENS

The study of these early forms of life, although most interesting, is not part of social science. Since social science is the study of human communities, it begins with the appearance of people like us, mammals whom the biologists call *Homo sapiens* (*homo* = man or mankind; *sapiens* = knowing or clever). What qualities have set *Homo sapiens* apart from other creatures? What made human beings capable of "knowing"?

An outstanding fact about human beings is their long childhood or period of dependency. During this long time of growing up, they are cared for and protected by their parents. The babies of many fish, frogs, and even larger animals are on their own from the moment they are born. A baby mouse becomes full grown in six to seven weeks. A baby dog matures in 10 to 24 months. Children, however, mature more slowly.

The history of man's biological development is long and involved. However, certain advantages set man apart from all other forms of life: his long period of childhood dependency which make possible a learning-teaching relationship with adults; his ability to speak and to communicate ideas; his ability to reason. These qualities have enabled man not only to meet the challenges of his environment but also to evolve increasingly complex forms of civilization. Man's ability to reason led him from thinking about that which was immediate and visible to recognizing relations between apparently unrelated phenomena, to speculating about causal factors, to working out mathematically laws governing the universe.

Man's ability to reason also led him to develop concepts about his own worth as an individual and the value of his relations with his fellow men. His thinking led him to consider abstract questions involving the welfare of all people. What is freedom? What constitutes social justice?

This is what makes the history of man and the study of human societies so fascinating. Social science is about men and women and their many experiments in living together in societies.

PREHISTORIC TIMES

Times earlier than the first civilization, for which we have no written records, are called *prehistoric.* Our knowledge of prehistoric times comes mainly from archaeology. Some of this knowledge is helped by scientific tests that tell us how old a piece of bone may be. We also learn something about early men by observing human societies today that are still living the lives of food-gatherers.

In prehistoric times, human life changed very slowly. Just when *Homo sapiens* appeared no one knows. Many anthropologists believe that early forms of *Homo sapiens* appeared in Africa about 150,000 B.C. He was in Europe around the time that the last great sheets of ice of the Ice Age were melting. Some time later, he came to America, where his descendants became the American Indians and Eskimos.

During these early ages people lived by gathering food, catching fish, and hunting small animals. *Homo sapiens'* ancestors had learned to use fire and to make tools. Slowly, early men invented better tools and weapons. In time, they learned how to work together with other men to kill larger animals. Because life was uncertain, human population increased very slowly during prehistoric times.

Between 8,000 and 6,500 B.C., men made a major change in their natural environment. By planting seeds and growing more food, they assured themselves of a regular food supply and made it possible for more people to live longer and better. In changing their source of food, they also changed their way of living: Many wandering food-gatherers became farmers who lived in settled communities. In time, they developed and stored a surplus of food, which released some people from agricultural jobs and enabled them gradually to specialize at many different occupations. We call this development a "division of labor." From this humble and uncertain beginning, *Homo sapiens* went on to build an advanced and complicated way of living in cities.

THE EARLY STAGES OF ECONOMIC DEVELOPMENT

At the risk of oversimplification we may use the following list to illustrate the early stages of changes in the production of food and other goods.

1. Food-gathering and hunting
2. a. Primitive slash-and-burn agriculture
   b. Domestication of animals: herding
3. Irrigation agriculture and plowing with animal power
4. Surplus of food
5. Organized division of labor
6. Rise of cities
7. Spread of plow agriculture to rain-watered lands

With the development of agriculture, man made the first major change in his environment. For the first time, a surplus of food existed. The creation of this surplus released part of the workers from their earlier preoccupation with the struggle to survive. This new leisure eventually led to the growth of trade, the arts, science, education, and industry. In time, this resulted in the development of ever-increasing surpluses.

While most historians hold the view that cities were made possible by agricultural surplus and a more complex division of labor, Jane Jacobs, in *The Economy of Cities,* elaborates the idea that the first cities preceded the discovery of agriculture, and that these cities actually developed agriculture and animal husbandry.

THE MEANING OF CIVILIZATION

What is "civilization"? How did it come to be? What are its characteristics? Civilization had its origin in the settled community where large numbers of people, working together, cultivated sizeable amounts of land and produced the first known surplus of food. Releasing some of its people from the direct task of providing themselves with food, such a society was then able to institute a complex division of labor. Gradually, this resulted in ever-increasing goods and services. In time, this gave rise to classes with leisure and security to develop the arts and sciences, laying the foundation for improved knowledge and technology. Civilization, then, involves a large number of people living together in a sizeable geographic area, engaged in diverse occupations, within a highly organized, complex society. It means the rise of towns and cities, as the name implies: *civis* (Latin) = citizen.

The point to emphasize in discussing the rise of civilization in Sumer is the peculiar challenge and opportunity offered by a region with slight rainfall, blistering summers, wide, flood-prone rivers, and an alluvial plain that varied from marsh to dried mud. If Arnold Toynbee's thesis that civilization results from a challenge met by a human response is correct, we can hardly find a clearer example than the rise of Sumer.

It should be noted that not all members of a given society necessarily share in its civilization, e.g., peasants or agricultural slaves. Notice, too, that civilization produces many problems even as it solves other problems. These are all part of the human adventure.

SUGGESTIONS FOR TEACHING

The main theme of Chapter 1 is man's evolution from food-gatherer and hunter to builder of cities—from primitive to civilized life. In developing this theme, the teacher should emphasize the following understandings: man, because he could reason, learn, teach, and speculate, was able to adapt—and adapt to—his environment; man's growing control over his environment, aided by his inventiveness, led to civilization; division of labor, or specialization, was essential to the production of an agricultural surplus and the subsequent rise of cities.

Make sure that the students fully comprehend the meaning of *civilization* as defined in this chapter. This concept will appear again and again in *The Human Adventure.* It is important that the students understand the technical definition of being *civilized.* This should help avoid misunderstanding when, in later chapters, certain peoples are referred to as being uncivilized. Such a statement casts no aspersions on the *cultural* development of a people; it means simply that people are living near the subsistence level. They have not produced a surplus; they have not achieved a division of labor; they have not built cities.

In studying the relation of early men to their natural environment, the teacher should be aware of opportunities to review, reinforce, and extend certain concepts introduced in earlier grades of ERCSSP. Students should recall some aspects of the life of early man, treated in Grade 4, *Agriculture: Man and the Land.* The study of Australian Aborigines and Alaskan Eskimos in Grade 2 also throws light on bygone cultures, as do the studies of various Amerindian and African cultures in Grades 1, 2, and 3. It might be helpful to have on hand several copies of these texts for reference.

Students should also recall the elements of the natural environment (physical features, native plants and animals, raw materials, climate), and the cultural changes effected in the natural environment by various societies at different periods in time. One way of reviewing these understandings is to show pictures representing parts of the natural and cultural environment. Students should be able to classify the items and to explain ways in which man adapts—and adapts to—his environment.

INTRODUCTORY INQUIRY ACTIVITY

Draw a long horizontal line on the board or on a transparency. Write 150,000 B.C. at the beginning of the line and A.D. at the end. Divide the line into sections (10,000 years to a section) and label each accordingly. Use this time line to explain that early man (*Homo sapiens*) first appeared on earth about 150,000 B.C. From that time until about 8000 B.C. (mark the time line with this date), man was a hunter and food-gatherer, and he made weapons and tools of stone. Human life changed very slowly, and population increased very slowly. Between 8000 and 6500 B.C. (mark the time line), a great change came about. Man learned how to grow food, to tame animals, and to make better tools. Ask, "What changes do you think this made in man's way of living? What changes did it make in population? What did many wandering food-gatherers do?"

Tell students that between 6500 and 3500 B.C. (mark the time line) man made a great leap forward. Ask, "What do you think the great leap was?" Extend the time line to show the current year. Ask, "What great event of the twentieth century was described as 'one small step for a man, but a giant leap for mankind'? Why was the first moon landing called a 'giant leap'? Do you think man's great leap forward around 3500 B.C. was as important as the moon landing?" Tell students they will have more ideas on this question after studying Chapter 1.

NOTES ON QUESTIONS

Page 20: ? ● Man might very well have learned from animals some foods that were safe to eat, as well as some that were not. He might have followed animals to areas of shelter. He may have seen that sharp hooves broke things easily and perhaps thought of using a hand axe. Students might suggest other feasible ideas.

? ● Animals teach their young by example and by "discipline." A mother duck leading her ducklings to water; a mare's nip of its frivolous colt; a lion's cuff of its frolicking cub; a mother bird pushing reluctant babies out of the nest–these are just a few examples. Students should be able to think of more. The idea of instincts may also be brought out in the discussion of this question.

? ● At first, early man probably taught his children in much the same way that animals teach their young. This would most probably have been the case before man was able to talk intelligibly and before he could pass on his accumulated knowledge by writing.

● Man's intelligence makes him different from all other animals. The important difference in teaching was verbal communication—first oral, then written.

? ● Today man teaches his children (and other men) through a vast array of media—as well as through the very earliest way, by example. Students might mention lectures, books, movies, filmstrips, television, microfilm, satellite television, laboratory work, etc.

Page 22: ► Generally, mountains and plateaus are to the north; plains to the south.

► The sources of the Tigris and Euphrates rivers are in the high mountains of northern Mesopotamia; the rivers flow into the Persian Gulf.

► Mountains, plateaus, and hills characterize northern Mesopotamia. Southern Mesopotamia is a flat plain. The Tigris and Euphrates rivers flow from the mountains of the north, across the plain, and into the Persian Gulf.

Page 23: ? ► While grain was being carried from one place to another, seeds probably fell to the ground and took root. Someone (or more than one person), noting food plants growing where none had grown before, guessed that plants grew from seeds that had dropped and reasoned that seeds put in the ground on purpose would also grow.

Page 24: ? ● Women probably were the first growers of food because they stayed "at home" while the hunters went out to search for game. Probably the women were the berry-gatherers and wild-grain-reapers. Thus they became aware of the possibilities of growing things themselves and growing them nearby.

? ● Until the beginning of agriculture, man accepted only what the land could offer him without his altering it in any way. With the advent of agriculture, man began to shape his world to fit his needs. In other words, he took an active role in controlling his natural environment—adapting it by using his reason and his will.

? ● Seed agriculture is carried out by planting seeds; vegetative or root agriculture is achieved by planting shoots, roots, or tubers. Examples of seed agriculture are wheat, corn (maize), rye, rice, beets, carrots, beans. Examples of vegetative agriculture are bananas, yams, taro, sugar cane, potatoes, and coffee.

Page 25: ? ● Obviously the name is a good one because it accurately describes the slash-and-burn farming process.

Page 26: ● The herders of northern Mesopotamia had to move back into the hills in the hot, dry summer to get water and forage for their herds. When winter came, they moved back to the warmer lowlands where the winter rains revived the grass and provided water for their herds.

Page 27: ● Abel was a keeper of flocks; Cain was a tiller of the soil.

? ● Fights between herders and farmers in the American West were caused by disputes over who had claim to the land.

Page 28: **cap.** Summers in southern Mesopotamia are very hot and dry. There is very little rainfall during the winter months, and none during the summer.

Page 30: ► The annual rainfall in southern Mesopotamia is under 10 inches—an insufficient amount for farming without irrigation.

► The rainfall in northern Mesopotamia varies from 10 to 20 inches annually.

ACTIVITIES

Have each student locate the Middle East and Mesopotamia on a world map and on a globe. Encourage the use of longitude and latitude lines in identifying locations.

? Help students make a large map of the Middle East on chalkboard or paper. (An easy way—make a copy of the map on a transparency, place it on an overhead projector, project it to the desired size on paper or chalkboard, and trace.) After studying a wall map of the Middle East, students can mark the Tigris and Euphrates rivers, mountains, and other physical and climatic features of the area as they are studied. Cultural features (the boundaries of Mesopotamia, the location of Sumer, irrigation patterns, cultivated areas) may also be added to this map.

? Have students set up the river valley between the Tigris and Euphrates, using clay, sand, or dirt in large shallow pans. Land areas can be built up or lowered to show some of the problems of irrigation encountered by the Sumerians. Have the students make artificial canals to link the rivers. Water areas can be lined with aluminum foil to prevent seepage.

? Help students make a study of the precipitation and average summer and winter temperatures of their own region. Compare it with similar statistics for southern Mesopotamia (Iraq), and, possibly, a third area. The following questions may help students analyze their findings: "Which area would you prefer to live in today? Why? Which area would you have preferred if you were primitive people? Why?"

Use diagrams to illustrate to the students (1) the changing size of the land area needed to support one person and (2) the world population graph from 8000 B.C. to the present. Consult Karl Sax, *Standing Room Only: The World's Exploding Population*, 1960, pp. 30ff.

? Students may use the globe, maps, diagrams, and pictures to discuss these questions concerning the physical geography of southern Mesopotamia: "What landforms were found there? (Were there mountains, plateaus, hills, plains, etc.?) What bodies of water existed there? What was the natural vegetation like? What kind of animal life existed there? What type of soil did this land have? What minerals, known to ancient men, were found there? Did this area seem to be a likely place for civilization to begin? In what ways did southern Mesopotamia present men with a challenge?"

? Use these questions to help students analyze the ways in which men changed the area (cultural geography) of southern Mesopotamia: "What skills did men apply to make changes in the region? What features did they add to the landscape? How did the man-made features change the natural environment? How did these changes affect the number of people who could live on the land? How did the changes affect the way people were distributed over the land?"

? For a bulletin-board display or a class notebook, have students make drawings showing the early stages of economic development from food-gathering to city living. Include the following stages: (1) food-gathering and hunting, (2) discovery of seed and root agriculture, (3) slash-and-burn agriculture, (4) domestication of animals, and (5) river-valley agriculture (irrigation and traction plow).

To help students develop an understanding of the importance of division of labor to the rise of civilization, ask them to name a variety of skills they consider necessary in a civilized society. List their answers. (Answers should include skills necessary for the production of basic needs. Students will probably name many service and production skills.) Lead them to understand that the development of so many skills depends on division of labor and specialization.

? Have the students imagine that they are primitive men. Ask them what they have that they did not get or buy or obtain in some manner from someone else. (Do not let them forget ideas.) Once they have eliminated all objects except those available to early men, have students describe their lives. How will they live? This exercise should help students realize the great strides man had to make in order to develop a civilization.

? Divide the class into groups of six or seven. Ask students to imagine themselves in the wilderness. How would they organize themselves? Would they divide up the labor? How would they get food and shelter? What trouble might they expect from animals, insects, the weather? Groups may present their conclusions orally or in the form of brief dramatizations.

? A group of volunteers might find out more about the life of early man, the food-gatherer and hunter. Points to include: food, clothing, shelter, dangers, work of men and women, tools and weapons.

? Have a group do research to find pictures of the cave drawings made by early men. Show them to the class and discuss these questions: "What things are shown in the drawings? Why did they make these pictures? How might such drawings have led to the invention of writing? What would be the disadvantage of picture writing vs. using an alphabet like ours?"

? Have a group do research to find out places in the world today where men still live as primitive food-gatherers. In addition to books listed in *Resources* (*People and Places* by Margaret Mead is especially good), much information on primitive man appeared in the following issues of *National Geographic*:

1. September 1960, "Finding the World's Earliest Men."
2. October 1961, "Exploring 1,750,000 years into Man's Past."
3. February 1965, "The Leakeys of Africa: Family in Search of Prehistoric Man."
4. January 1966, "The Waura – Brazilian Indian of the Hidden Xingu."
5. November 1966, "Preserving the Treasures of the Olduvai Gorge."
6. May 1967, "First Masters of the American Desert" (how the tribe of Hohokam Indians faced and conquered the challenge of their desert environment).

Read to the class excerpts from William Golding's novel, *The Inheritors*, a vivid and moving description of the last days of Neanderthal man.

CHAPTER 2

Solving the Mystery of Sumer

Text pages 35-57

An attempt is made in this chapter to examine the exciting but demanding work of historians and archaeologists in reconstructing from inadequate, and often contradictory, evidence the existence of Sumerian civilization, a lost civilization forgotten by the world for almost 4,000 years. The main sources that provide archaeologists and historians with information about earlier peoples and their history include:

1. Written records, which are not necessarily reliable and which require scholarly translation, interpretation, and evaluation.
2. Artifacts (pottery, weapons, tools, statuettes, drawings, etc.).
3. Traces of early cities and buildings discovered by excavation.
4. Ingenious, sensitive, and imaginative reconstruction.

Text Outline

The Forgotten People
The First Clues: Old Stories
A Story of Babylon
The Story of an Attack on Jerusalem
The Second Clues: Mysterious Marks
The Third Clues: Tels and Tablets
The Fourth Clue: A Key to the Strange Writing
The Fifth Clue: Deeper Digging
What Happened Here?
A Mystery Is Solved

CONCEPTS	OBJECTIVES **Questions to be developed***
The methods used to find out about earlier peoples	How was Sumer discovered after being forgotten for almost 4,000 years?
	How can the past be reconstructed?
The nature of historical evidence	What clues—written records and their meaning, artifacts, traces of former cities, artistic remains—led to the discovery of Sumer?
The distinction between the work of the archaeologist and that of the conventional historian	What was the role of archaeologists in the discovery of Sumer?
	What was the role of historians?
Historical imagination: the ability to place oneself in the state of mind or at the point of view of men in other times and places	How can we understand customs—such as the funeral ritual of Queen Shubad—that seem strange to us?

Behavioral Indications: **Discussion of these questions and problems will show whether students understand the concepts and can apply them to the materials presented in this chapter. The questions may also be used for review and evaluation.*

BACKGROUND INFORMATION

See pages 111-121 for *Resources*.

THE DISAPPEARANCE OF ALL TRACES OF THE FIRST CIVILIZATION, SUMER

Although some authorities differ on the matter, it seems that the earliest known focus of civilization was Sumer. It was here that the world's first cities were built and organized. Yet, these cities were completely forgotten by later generations of men. Less than 100 years ago, the existence of the Sumerians was unsuspected.

Knowledge of Sumer has been revealed gradually by many scholars working separately and together over many years. Historians helped in the criticism and interpretation of written documents; language experts, in the translation of the ancient cuneiform script; and archaeologists, in the excavation and examination of artifacts, cities, and buildings in southern Mesopotamia.

A number of reasons explain Sumer's descent into oblivion, but perhaps the most important reason was Sumer's highly vulnerable location. Sumer had no "natural" defenses. Consequently the earliest civilization in southern Mesopotamia was overrun by foreign invaders on several occasions.

These invaders occupied Sumerian cities and copied Sumerian ideas and techniques. Thus "new" cities arose on the sites of Sumerian cities. These new cities were in turn overrun and rebuilt. In the course of time, men remembered only the "recent" cities and cultures of Babylonia and Assyria, completely forgetting the Sumerian and Akkadian cities that preceded them. At a later date still, many of these city sites were abandoned owing to changes in the courses of the rivers and the quality of the soil. When this occurred, the layers of rubble dating back to 3500 B.C., or even earlier, gradually settled into mounds (*tels*) located in relatively barren and underpopulated areas. Until these mounds were excavated, the secret of Sumer could not be unveiled.

We may contrast the successive invasions and changes that obliterated the traces of Sumer with the relatively secure and continuous existence of Egyptian culture and cities from c. 3000 B.C. down to the Christian Era. Egypt, it is true, was conquered once in the second millennium, but geographic location gave Egypt a far greater continuity of existence than was enjoyed by the cultures of Mesopotamia. Consequently, the record of Egypt was not obliterated. For centuries, scholars assumed that the Egyptians created the earliest civilization, but with the discovery of Sumer this impression has been corrected.

THE WORK OF THE ARCHAEOLOGIST

It is useful for the students to realize that a great civilization *may* be blotted out from the pages of history. They should note, however, that such a civilization inevitably leaves trails or clues that may be picked up and interpreted by scholars. Especially important in the study of early civilizations is the work of the archaeologist.

Much of our knowledge of the Sumerians comes from archaeologists, men whose work deals with tracing, uncovering, and dating the relics of past societies. Archaeologists have found many artifacts of bygone cultures, including tools, ornaments, clay tablets, pieces of homes and temples. The archaeologist's skill and knowledge help him to know where and how to dig for long-buried relics.

Advances in technology and science have made possible more sophisticated and more accurate tools for the archaeologist, e.g., chemical dating processes, aerial photography, and power drills.

Now let us see how the traces of Sumer were recovered.

THE FIRST CLUES: HISTORICAL REFERENCES

The Old Testament of the Bible is an essential guide to the ancient civilizations that once existed in Mesopotamia. Old Testament passages refer to the great cities of Babylon and Nineveh, and to the Babylonian and Assyrian armies that once marched out of these cities to attack the Hebrews. The Book of Genesis contains a reference to the former Sumerian city of Ur of the Chaldees, the original home of Abraham (Genesis 11:31). And there is in Genesis 11:2 a reference to the "land of Shinar," which scholars now accept to be a reference to the land of Sumer.

Several references to Babylon also appear in *The Persian Wars*, written by the Greek historian Herodotus in the fifth century B.C. In Book 1, Chapter 191, Herodotus describes the capture of the city of Babylon by the Persian Emperor, Cyrus, in 539 B.C. He notes that the Babylonians, in preparation for Cyrus's attack, laid in several years' supply of food and withdrew behind the city's walls. The walls were so strong, and the surplus of food so large, that Cyrus was only able to capture the city by lowering the level of the Euphrates sufficiently to enable his soldiers to march up the river bed into Babylon. The city was so big that many Babylonians were unaware that Cyrus had succeeded until they saw Persian soldiers marching through their streets.

THE SECOND CLUES: BRICKS WITH CUNEIFORM WRITING

The references in the Bible and Herodotus appear to have stimulated early travelers to go to Mesopotamia to search for corroborative evidence. The first travelers to the area were, in fact, mainly sincere religious enthusiasts spurred by their desire to confirm and substantiate the Biblical record.

The first European to bring home samples of cuneiform script was a Roman nobleman, Pietro della Valle, who visited southern Mesopotamia in 1616 and 1625. Della Valle was one of the first persons to recognize that the markings on the bricks were not mere decorative devices, but, more probably, represented a form of writing. Of course, no one was yet able to decipher the meaning of the marks. In the seventeenth and eighteenth centuries, other travelers to Mesopotamia collected more bricks and artifacts from the tels.

Notice the origin of the term "cuneiform," from the Latin *cuneus*, a wedge.

THE THIRD CLUES: EXCAVATION INTO THE TELS

Under British and French direction, excavations in Mesopotamia were undertaken seriously in the nineteenth century and have continued until this day. The early archaeologists tended to be more enthusiastic than scientific. They needed their enthusiasm, for these men were faced with many obstacles. Expeditions were understaffed. Resources were never adequate. Local officials obstructed progress. Disease was an ever-present threat.

The pioneer archaeologists were looking for "big finds." Bricks and tablets were often discarded in the search for treasure. Because of this attitude, interest in southern Mesopotamia was delayed. The potsherds and clay tablets of southern Mesopotamia were quite valueless until the cuneiform could be deciphered. So the early excavations were centered in northern Mesopotamia. The finds in this region were astonishing. The archaeologists uncovered magnificent palaces and colossal sculptures of Assyrian kings, paintings, ornaments, and many more cuneiform tablets.

As time went on, the scholarly attitude began to change. The emphasis changed from uncovering huge, impressive stone monuments to finding scientific information. Archaeological expeditions began to be organized by museums, universities, and governments. German and American archaeologists joined in the search.

Scholars wanted to know more about peoples who had once lived in the area. This led to a renewed interest in the mysterious marks on the clay tablets. It was not yet realized that a civilization older than those of Babylonia and Assyria lay buried beneath the rubble.

THE FOURTH CLUE: THE DECIPHERING OF THE BRICK TABLETS

The cuneiform script of the Sumerians was unlike any language known to the modern world. Yet, by following many seemingly unrelated clues, nineteenth-century scholars learned how to translate the thousands of clay tablets found in southern Mesopotamia.

The key to the strange Sumerian language came from Iran and not Iraq. The ancient Persians—like other peoples of the ancient Middle East—had adapted the cuneiform script to their own language and, in this way, made use of the script originally developed by the Sumerians. Because the ancient Persian Empire contained many different peoples who spoke many different languages, ancient Persian rulers had their cuneiform inscriptions written in different languages. So it was that about 500 B.C. the Persian king Darius had an inscription carved on a cliff at Behistun in three languages: Persian, his own native tongue; Elamite, the language of the natives of western Persia; and Akkadian, the name for the Semitic language spoken by the Babylonians and Assyrians.

The first language translated was the Old Persian, an Indo-European language spoken by the Persians and Medes who ruled Iran during most of the first millennium B.C. The key to the translation of Old Persian was found in India in the Avesta, the sacred book of Zoroastrianism, which is written in the Old Persian language.

Once translated, the Old Persian provided the key to the translation of Akkadian, which in turn provided the key to translation of the Sumerian. Some scholars claim that the Sumerian is unlike any other tongue ever known to mankind. Other scholars claim that the Sumerian language is closest to that family of languages to which the Turkish, Finnish, and Hungarian languages belong.

H. C. Rawlinson was the British officer who copied the three versions of the inscription at Behistun between 1835 and 1847. He translated the Old Persian version. (Simultaneously, a German scholar named Georg F. Grotefend was also able to decipher the Old Persian. Rawlinson and Grotefend, working independently, produced translations that coincided remarkably well.) The first line of the Old Persian was deciphered to read: "Darius, the great king, king of kings, son of Hystaspes." Translations of the Akkadian and Elamite versions were worked out by Rawlinson and an Irish scholar, Edward Hincks, in the 1850's.

It was in the 1850's, too, that Hincks and Rawlinson began to suspect the existence of an earlier civilization—Sumer—because the syllabic values in the cuneiform script did not exactly suit the Semitic language of Assyria and Babylonia. In 1869, the French scholar, Oppert, gave the name Sumerian to the language of the non-Semitic people who invented cuneiform script. He took the name from the royal title, "King of Sumer and Akkad."

THE FIFTH CLUE: FURTHER EXCAVATIONS

In the twentieth century, major archaeological expeditions uncovered many of the Sumerian cities of southern Iraq. From 1920 to 1940, 100 archaeologists were digging in about 30 sites. Their work and the continuing work of archaeologists today have revealed the extent and sophistication of the Sumerian culture of the fourth and third millennia B.C.

Ur was excavated between 1913 and 1933 under the direction of Sir Leonard Woolley, whose expedition was supported by the British Museum and the University of Pennsylvania. Woolley's discovery of the Death Pit of Ur is described in the text, but Woolley made another discovery not mentioned in the text which is also of major interest. When Woolley began to dig beneath the graves of Ur, he found evidence to support the story of The Flood. As he dug deeper, he noticed that every sign of human occupation disappeared. There was only clean mud—virgin soil—but Woolley dug deeper still. Suddenly signs of primitive human occupation appeared. He was convinced that he had found evidence of The Flood.

WHO WERE THE SUMERIANS?

No one knows for certain who the Sumerians were or where they came from. Some scholars claim they moved southward into Sumer from northwestern Iran. Many references in Sumerian writings to Aratta, a city in northwestern Iran, show that a relationship existed between this city and the cities of Sumer. The same scholars claim that all the fruits and vegetables now known to mankind first existed in northwestern Iran; they also point to the fact that the Sumerians believed their paradise, Dilmun, lay east of Sumer. Its description best fits this same region. (Cities and temples of the Dilmun culture, stretching from Bahrain in the Persian Gulf to Kuwait, were recently excavated by Geoffrey Bibby and are described in his book *Looking for Dilmun.*

Other scholars claim that the Sumerians came into what is now southern Iraq from south of the Persian Gulf.

However, regardless of their origin, the Sumerians were not the first people to have lived in southern Iraq. Earlier cultural remains found in mounds at Tell al 'Ubaid (four miles north of Ur) indicate that the inhabitants, people of the Late Stone Age, were perhaps the first settlers in the river valley. Some scholars claim the Ubaidians built agricultural settlements and that Semitic nomads from the Syrian Desert and the Arabian Peninsula invaded these settlements as immigrants and as conquerors. Traces of Ubaid culture have been found recently on the coast of Saudi Arabia.

SUGGESTIONS FOR TEACHING

The theme of this chapter—the thrill of discovery—is appealing to students. They should realize that archaeologists and historians are engaged in an ongoing study, as our knowledge of the past is incomplete. At any time, new material may be discovered that will enlarge our knowledge of Sumer and other early civilizations. While Sumer is considered to be the earliest known civilization at this time, it is possible that still older civilizations may be discovered. Thus it is important that students understand the value of certain kinds of evidence to the historian and the archaeologist. They should realize that written records are of special importance to the historian, while the archaeologist studies artifacts of ancient peoples to learn about the past. The teacher might emphasize the value of both written records and artifacts in the historical reconstruction of a civilization. Students should be able to tell about the five kinds of clues that led to the discovery of Sumer.

The students should be led to appreciate something of the archaeologist's work: the careful preparations, the variety of skills, the perseverance despite frustrations, and the excitement of discovery. Many of the illustrations used in the chapters on Sumer, such as the "before" and "after" pictures of Queen Shubad's headdress, should be used to help the students grasp the painstaking work, diligence, imagination, and patience required of archaeologists in reconstructing the past.

Students will have many opportunities to improve skills related to the use of research materials: selection of an appropriate source, evaluation of information, note taking, outlining, acknowledgement of source. It is suggested that the teacher correlate some language arts and social science lessons with this goal in mind.

INTRODUCTORY INQUIRY ACTIVITY

? Call attention to the picture montage of Sumerian artifacts on pages 38-39 in the text. Ask students to think of themselves as detectives and see how much they can discover about the Sumerians by studying the pictures and the identifying captions. Have students keep a record of their ideas. As the study progresses, they can compare their original hypotheses with archaeologists' findings.

NOTES ON QUESTIONS

Page 37: ?

- Lasting clues of human existence will usually be of relatively indestructible materials like baked clay, stone, and pottery. Wood decomposes quickly. Metals deteriorate, but fairly slowly, especially if they are sealed off from water and oxygen. Sometimes even cloth will be preserved for thousands of years; so will parchment and papyrus as in the case of the "Dead Sea Scrolls," which were preserved in urns in a dry cave. Those records of our civilization which have been consciously preserved in vaults and time capsules should withstand several millennia, and give a fairly comprehensive picture of our way of life.

  Students may speculate on the varieties of artifacts that would offer clues to our forms of government, kinds of institutions, economic organization, transportation, arts, amusements, food, clothing, shelter, customs.

?

- Archaeologists have unearthed statues, pictures, graves, pottery, the remains of various types of structures (shelters, temples, altars, streets, city gates and walls), tools, weapons, jewelry—even clothing—among other clues to peoples of the past.

  Things made of stone, baked clay, pottery, metal, parchment, and some types of cloth would be likely to last through the centuries.

- People who lived in settled communities would leave many more clues than hunters, who moved from place to place in search of food.

?

- It would be difficult to learn about ancient peoples from the clues they left behind, since such clues are often fragmentary and contradictory. Think how confused archaeologists of the year A.D. 7000 might be by traces of our civilization. For example, what would they make of an airplane wing or a hubcap? They might think such artifacts were decorative devices, unless they found pictures or written descriptions of airplanes and cars. Thus, much skill is required to piece together bits of conflicting information into an accurate picture of past life.

► *Archaeology* is the study of past human life and activities, as shown by the relics, monuments, and artifacts of ancient peoples. The skills of an archaeologist are described in various books suited to the students (see *Resources*). Some of these skills include: knowledge of history and geography, ability to recognize artifacts typical of a particular culture or period, great patience and delicacy in excavating, ability to use chemicals and other tests in dating objects, acquaintance with ancient languages and symbols, and ability to reconstruct imaginatively and accurately from small clues.

Page 40: ► Babylon was located in central Mesopotamia.

? ★ The Hanging Gardens of Babylon are considered one of the wonders of the ancient world. They were apparently built within the palace walls in a series of platforms constructed on rows or tiers of semicircular arches and covered with earth. These platforms were planted with vines, bushes, and flowers, and were supplied with water from a well nearby. They were built by King Nebuchadnezzar to please his queen.

Page 43: ► Jerusalem is not in Mesopotamia; it is in the land now known as Israel, a Middle Eastern country at the eastern end of the Mediterranean Sea.

? ● From the stories, the students should be able to uncover much information about Babylonian customs (the marriage arrangement) and Babylonian power. For example, Herodotus describes the hard work of irrigation and the wondrous results: "Of all the countries that I have seen no other produces so much grain." The Bible story describes the conquering armies of Babylon who were able to "carry away captive all of Jerusalem."

Page 44: ? ● The old stories can be called clues because they provide detailed descriptions of past customs and events that stirred men's imaginations and stimulated many of them to wonder and a few of them to travel to Mesopotamia to search for corroborative evidence. It would be difficult to prove that the stories were true because the corroborative evidence was buried in the earth. The hot, dry, dusty, barren land hardly seemed to be the site of an early civilization.

Page 45: ● The old stories, the first clues, gave the impression that Babylon had been a large and wealthy city. The Italian scholar Pietro della Valle might have reasoned that there must be some remaining physical evidence of the existence of what must have been a well-developed culture. This led him to southern Mesopotamia, where he obtained the bricks with the mysterious marks, the second clues.

The bricks might have aroused more interest in southern Mesopotamia because people reasoned that where there were bricks, there must have been people to make them and to build with them; and where the buildings had been is where the gold mentioned in stories must still be. The possibility of finding riches never fails to arouse many people's interest. Many scholars, however, became excited about finding documentation for the possible past existence of an early culture, hitherto considered more or less legendary.

● At first glance, the strange marks on the bricks seemed to be meaningless; for a long time, the marks were dismissed by scholars as mere decorative motifs.

★ The Italian used the methods of an archaeologist. He examined objects (artifacts) that ancient peoples had left behind. His initial stimulus, however, was an historical one: written stories found in the Bible and in the histories of Herodotus.

Page 46: ? ● A city arose in a certain place because the place was convenient—for trade, for production, for water supplies, or some similar reasons. Once the city was a going concern, its inhabitants would keep it that way. Only major upheavals—invasion, disease, a change in the course of the river—would stop people from living in that city.

Page 47: ► A note written on paper today and discarded will probably be ashes within a few days. Baked clay, however, is practically indestructible and can survive buried in the earth for millennia.

● The discovery of the clay tablets was extremely important—but only if they were deciphered. Once they could be read, the details of Sumerian life could be reconstructed. We call the clay tablets "the books of the ancient world" because they were the only written records left by the Sumerians.

Page 48: ► Persia is now called Iran.

► Some languages that share the same letters are English, Spanish, French, and Italian.

Page 49: ► The Babylonians had "borrowed" the writing of the Sumerians.

Page 51: ? ★ Before an archaeologist begins to dig, he must do intensive preparatory work in the form of reading about ancient civilizations and examining his chosen site very carefully. Every potsherd is a clue that gives him information about what lies buried under the earth. In other words, he must be able to "read" and date sherds of pottery lying near a mound. The decorative motifs, the quality of the clay, the color, the shape—all these things prepare him for what he will find once he puts a spade to the earth. If he can "read" the sherd, he can also determine the period in which it was produced. Of course, the objects found on top of a mound generally date from a more recent historical period, so he must also be aware of historical chronology in order to make an educated guess about what he will find buried in the mound.

Archaeologists use spades, picks, shovels, drills, chisels, hammers, brushes of various sizes, compasses, maps, measuring tapes, twine, cameras, and many other tools.

Archaeologists keep detailed lists describing what they find and where they find it. They also usually take general photographs of the site at which they are working and many close-up shots of what they uncover.

Page 52: ● The "before" and "after" pictures of the harp should help the students to appreciate the skill required of an archaeologist. The harp, as found, was crushed and mixed with earth. The wood that once formed its frame had completely disappeared, however, its imprint remained in the soil. Plaster of Paris was poured into this impression to preserve the shape. With minute attention to detail, infinite patience, strict scientific procedures, and imagination, the archaeologists were able to restore the harp.

● The archaeologist must keep a list of his finds because as he digs deeper into the earth he destroys the level at which he has been working and all possible further evidence of what he found.

Page 54: **cap.** Students should notice that the helmet closely follows the shape of the head, that the hair is engraved in the metal and that the ear has been modelled as well.

? ● These two clues should lead the students to make an educated guess about the Sumerians. They should be able to determine that the Sumerians got the metal from other places and other peoples—probably through trade.

Page 55: ★ Genesis 11:31 tells how Abraham set forth from Ur of the Chaldeans to go to the land of Canaan.

● Sumerians might have believed that their ruler would need his treasures after death. Similar funeral customs existed in Egypt. Many early graves and tombs in many parts of the world were provided with tools, utensils, weapons, and even food containers.

Court servants apparently went to their deaths willingly, considering it their duty to serve their ruler even in the afterlife. To a twentieth-century observer, their loyalty seems awesome.

Page 56: ? ● In the "before" picture, the crushed pieces of the headdress are barely recognizable. Yet, under Lady Woolley's reconstruction, the "after" headdress is a marvelous creation. One can see that the archaeologist sometimes needs an artist's imagination and delicate touch as well as an historian's knowledge of early cultures.

● Archaeologists of the future will probably discover little about us by digging up the graves of our important people. Although many Americans of various faiths believe in life after death, they do not picture such a life as a continuation of earthly existence. The soul will not need food, treasures, or servants. Thus the only difference that might be observed between graves of important and average Americans would be in the quality or size of the casket or grave marker—and even this distinction is not a universal one.

Page 57: ? ● Although it is unlikely that our civilization will be forgotten, it is not impossible. A nuclear war could destroy civilization. However, if some men survived—and if we were forgotten—traces of our existence would inevitably be left behind. Possibly fragments of buildings might remain, written records of one kind or another, items of metal, cloth, and baked clay. Records kept in vaults might remain. Present-day bomb shelters stock a variety of things, including tools, medicines, and canned or dried foods; presumably, some of these things would last. Students might know that our civilization has made conscious efforts to preserve records of its culture, technology, and values, e.g., time capsules are buried on the occasion of major world fairs.

? ★ Keeping in mind the kinds of materials likely to last for more than five millennia, students might speculate on the types of clues an archaeologist would find. Perhaps cornerstones of buildings would remain. Some cornerstones are in the nature of a "time capsule" containing such things as a newspaper of the date of the cornerstone laying, a short history of the group responsible for the building, a list of the important officials of the city. From these, archaeologists could determine the date of the building, something of its purpose, materials used in its construction, and a clue to the language used by the people of that time and place.

? An archaeologist might be puzzled by an airplane wing or a hubcap (as previously noted) unless he found related clues to explain their use, e.g., a written description or a picture of an airplane or an automobile.

ACTIVITIES

Find out if any students have ancient artifacts at home. Examples: flints, weapons, utensils. These could be displayed in class. Fossils would also be interesting, but point out that these are *not* artifacts. Fossils are geological evidence of early forms of life. Artifacts are things made by man.

If possible, have an archaeologist or a student of archaeology visit the classroom to tell the students about his work.

Plan a class trip to a local museum to examine its collection of ancient art and artifacts.

? Have the students pretend that they are preparing a time capsule. What objects would they select and why? Have them select words as well as objects: for example, what would an archaeologist make of terms like "hot rod," "hot dog," "cool" (as slang), etc.

? Display a few artifacts of our culture, such as a rusty cogwheel, a piece of broken pottery, part of a printed page, a bit of pencil, a coin. Let students comment on what the artifacts might signify to an archaeologist who knew nothing of our culture.

? Have the students try to reconstruct a piece of earthenware from broken bits—with some pieces missing. Or have them piece together a letter or page that has been ripped into shreds, some of which are lost. The students should learn the patience and imagination needed for reconstruction. They should try to guess the missing parts of the message and compare their efforts with the original, which could be produced later on.

? Ask one group of students to make a code of pictures and signs to stand for each letter of the alphabet; have them use the code to write a message. Ask a second group to decipher the message. (One word should be deciphered so that the students have something to go on.) Then ask the class to discuss the difficulty of translating an unknown language—without any key word. Ask, "How does knowing the language of ancient peoples help us learn about their way of life?"

? Research and report:

How aerial photography helps the archaeologist.

Methods of dating used by an archaeologist. (The most famous method is carbon 14 dating. Every living thing contains atoms of radioactive carbon 14. After death, these atoms break down. The rate of breakdown is a known constant. Using radiation counters, the amount of remaining carbon 14 can be calculated and the object's age can be determined within approximately 100 years.)

The story of the Rosetta Stone (to show how inscriptions in several languages enable us to work back to an unknown language)

Biographical reports on Woolley and Rawlinson

? Set up an imaginary situation that should stimulate the students to creative thinking. Suppose that all people suddenly disappeared from their city. What would the city look like two weeks from now, one month, a year, 5 years, 25 years, 100 years, 1,000 years, 5,000 years? What might be the effects of the elements (rain, lightning, frost, wind, snow) over centuries? What would be the effect of fires? Would unrepaired concrete, brick, and wood crumble? Would structural steel rust and eventually decay? Would vegetation cover houses? Would pipes break?

? Display tools (or pictures of them) used by the archaeologist: pickaxe, shovel, trowel, paring knife, variety of brushes, camera, map, pen and paper, wax, plaster of Paris. Use the following questions to guide a discussion of the tools and methods used by the archaeologist: "When would an archaeologist use the pickaxe and shovel? Would all the dirt have to be carefully examined before it was carried away? Why? When would an archaeologist use smaller, more precise tools such as the trowel and paring knife? When would a toothbrush be used? A camera? How might wax and plaster of Paris be used? Why would pen and paper be needed? A map?"

Read to the class excerpts from the following (see *Resources*): Ceram's *Gods, Graves and Scholars*; Herodotus' descriptions of Babylon; Woolley's *Excavations at Ur*.

CHAPTER 3

Land and Goods in Ancient Sumer

Text pages 59-73

A method for studying the culture of a society is established in chart form at the beginning of this chapter. In Chapter 3, this method is applied to the analysis and reconstruction of geographic and economic aspects of Sumerian culture.

Text Outline

What Is a Culture?
How Did the Sumerians Change the Land?
The Sumerian Economy
How Did the Sumerians Produce Their Food?
How Did the Sumerians Trade?
Did the Sumerians Use Money?
How Did the Sumerians Distribute Their Goods?

CONCEPTS	OBJECTIVES Questions to be developed*
The meaning of culture; cultural characteristics	What is meant by culture?
	What methods can be used to learn about all cultures?
	How can we reconstruct Sumerian culture?
	What cultural characteristics were peculiar to the Sumerians?
The interplay of man and physical environment	How did the Sumerians learn to control their physical environment?
The achievement of a surplus and its relation to the rise of civilization	How did the Sumerians create a surplus? How did this contribute to the rise of civilization in Sumer?
The division of labor	How did the division of labor lead to specialization in Sumer? What was its impact on economic efficiency?
Techniques of production, distribution, and exchange	How did the Sumerians produce their goods? How were these goods exchanged or traded?
	Did the Sumerians use money?
	How did the Sumerians distribute their goods?

Behavioral Indications: **Discussion of these questions and problems will show whether students understand the concepts and can apply them to the material presented in this chapter. The questions may also be used for review and evaluation.*

BACKGROUND INFORMATION

See pages 111-121 for *Resources.*

CIVILIZATION AND CULTURE

The definitions of "civilization" and "culture" should be reviewed. Although often used interchangeably, these terms have distinctly different implications. "Civilization" is the generic term for a certain stage of social development in which a surplus of goods, a division of labor, and cities have developed. "Culture" describes the peculiar features of a particular society, whether civilized, barbarian, or primitive. The culture of a society is found in its basic traditions, institutions, and ideas, particularly as these are taught to successive generations. "Culture" is derived from the Latin *cultus*, meaning care or cultivation; it implies rearing and training; hence it suggests those basic social features which are cherished and passed on. Each culture is distinguished by certain idiosyncratic qualities: it may or may not be "civilized"; and civilization may be carried by many different cultures either simultaneously or successively.

The chart on page 60 of the text attempts to delineate the factors that are most important in defining a given culture. These factors are not necessarily always equally significant. There are endless variations between one culture and another, ranging from customary foods, types of music and clothing, to beliefs about God, relations between the sexes, and attitudes toward the government.

Anyone who has traveled must have noticed how culture patterns vary from one place to another. Students should be able to understand this, even if they have traveled very little. Many minor cultural variations may be observed in short journeys inside the United States. Consider the contrasts between suburbia and the central city, or between either and a rural area; between an Italian-American and a Polish-American community, or between either and an Amish community. Few nations in the world possess so many vivid illustrations of cultural diversity as the United States.

It might be asserted that the sign of a truly "civilized" and "cultured" person is his or her ability to appreciate and adjust to the mores of a community with a culture different from that of his own, and to do so without sacrificing his own character or standards of judgment. If this generalization is correct, one of the principal objectives of teaching young people about cultural differences and how to analyze them is to help them to understand and enjoy the variegated patchwork of cultures that comprise our world.

Let us, then, look critically and understandingly at the culture of Sumer as it existed 5,000 years ago.

SUMERIAN CITIES

Almost 5,000 years ago, the people of Sumer were living in about a dozen city-states. Each city-state was made up of a walled, central city and the smaller villages and settlements that had grown up around it. It is almost impossible to learn the size of cities that existed so long ago. However, it has been estimated that, at one time Lagash had a free population of about 100,000, while Ur had about 200,000 people.

Sumerian poems speak of their cities' "lofty gates" and wide boulevards where parades and feasts were held during religious celebrations. However, apart from the sacred area which contained the temple, the rest of the city looked as if it had grown up helter-skelter from the earlier farming settlements. Streets were narrow, winding, and unpaved. One-story, flat-roofed tenements stood next to two- and three-storied buildings. Craftsmen and merchants worked in open booths which lined the narrow lanes, much as the bazaars of the Middle East still do today.

SUMER IN ITS EARLIEST DAYS

The earliest homes in Sumer were little huts whose walls and flat roofs were made from reeds lashed together and covered with thick mud plaster. Cooking was done inside the huts on hearths which were holes in the beaten mud floor or built up with bricks of unbaked mud. Metals and stones were so rare that most of the household utensils were made of clay. Even the sickles for cutting the barley were made of clay. Awls and netting-needles were made of bone. The narrow canoe-shaped boats were made of reeds tied together. Cows, sheep, goats, and pigs supplied additional food. Clothes were made from sheepskin or homespun cloth.

Houses of mud brick could exist for a long time in the hot, dry land of Sumer. When these homes collapsed in a raging flood, new homes were built right over the ruins of the old houses.

THE SUMERIAN ECONOMY

Some scholars of Sumerian affairs have, in recent years, taken issue with the idea that the temple was as prominent in Sumerian life as had been thought when the world first learned of Sumer's existence. They claim that further study has shown that, even in the earliest days of Sumer, the temple owned only part of the land (which it rented to people for farming purposes) and that there was considerable private ownership of land. These scholars have estimated that more than half the population of Sumer lived on land that was the joint property of large patriarchal families.

AGRICULTURAL TECHNIQUES

The basis of Sumer's wealth was its agricultural surplus. Huge surpluses were made possible by the organization of large teams of workers to irrigate and cultivate the land and harvest the crops. The following instructions are from a Sumerian "Farmers' Almanac." (See S. N. Kramer's *The Sumerians*, listed in *Resources*, for the complete text as originally translated.)

1. Before you begin cultivating your field, watch carefully the opening of the dikes, ditches, and mounds so that you will not flood the field with too much water.
2. After draining the water from your field, let shodden oxen trample it for you to loosen the weeds and level the ground.
3. While your field is drying, prepare the tools you will need.
4. When your field is ready for planting, add an extra ox to the plow ox. When one ox is harnessed to a second ox, the plow is larger.
5. After your field has been harrowed and raked three times and the ground pulverized fine with a hammer, tolerate no idleness in your field laborers. If necessary, stand over them with a whip and allow no interruptions. Furthermore, do not expect your field workers to serve you. Since they must work day and night for ten days, their strength should be saved for the planting.
6. After the grain has begun to sprout, pray to the goddess Ninkilim, and shoo away the flying birds.

SUGGESTIONS FOR TEACHING

In Chapter 1, students learned how man evolved from primitive to civilized life and about the prerequisites for civilization. Chapter 3 offers an opportunity to apply these understandings to the analysis of a particular culture—that of the Sumerians. Students should learn how Sumerians changed the land (flood control, irrigation, farming), how they produced a surplus (organization of workers, division of labor), how they used their surplus (exchange of goods and services, barter, trade, money), and how they built cities.

It is important that students understand that "culture" is a society's whole way of life, and that the chart entitled "Questions To Ask About a Culture" is essentially a method of analyzing a culture. Go over the chart carefully with the students, making sure they understand the categories listed. (Most of the words are defined in the glossary at the end of the text.) If possible, the students should make a similar, oversized chart to display in the classroom. As they study the chapter, they will find answers to many of the questions listed on the chart. The teacher can use the classroom chart as a constant reminder to the students that each answer helps to fill out a picture of Sumerian culture as it existed around 3000 B.C.

Before discussing the Sumerian economy and the distribution of goods, it would be well to review understandings concerning capital, management, labor, capital goods, and savings, which were presented in ERCSSP for Grade 4.

INTRODUCTORY INQUIRY ACTIVITY

The study of Chapters 3, 4, and 5 may be introduced or motivated by discussing the sections of the chart "Questions To Ask About a Culture" (text, page 60) which apply to the given chapter. The chart itself may be introduced in a number of ways: An enlargement might be prepared in advance by the teacher. It might be copied on a transparency and used with an overhead projector. The teacher might guide the students in making and illustrating a chart similar to that in the text.

? Before studying Sumerian culture, lead the students in an analysis of their own American culture, using the questions listed on the chart as a guide. Make sure that the students understand that their culture is pluralistic, not narrowly homogeneous. Also make sure that they understand that certain facts are not relevant to an understanding of cultural differentiations. For example, color of eyes, texture of hair, and shortness or tallness do not distinguish one culture from another. Further, some qualities are common to all men. Thus the statement, "Americans need to sleep every night," is meaningless in cultural terms because such a need is not unique to Americans.

? Have students page through Chapter 3 and read the subtitles aloud. Direct attention to the chart "Questions To Ask About a Culture." Ask, "Which questions on the chart will be studied in Chapter 3? Which questions are about physical features? Cultural features? Which questions are about the work people do?" Have students look at the photograph of the "Standard of Ur" on page 58, and ask them to develop their own ideas about life in Sumer from the activities illustrated on the "Standard." Explain that as study of the chapter progresses, they will be able to supply more detailed answers to the questions on the chart.

NOTES ON QUESTIONS

Page 61: ? ★ Some of the things people learn in order to live in our society are ideas of good and evil, right and wrong, justice, loyalty, tolerance and understanding, cooperation, laws, and socially acceptable behavior; they learn how to read, write, count, earn a living. Students might mention more specific examples of things they have learned or must learn to live in their society.

Things are learned from family members (especially parents), in church or Sunday school, at school, from books, radio, television, from other people.

Page 62: **cap.** This man probably kept a herd of animals. The illustration is a detail from the "Standard of Ur."

Page 63: ► A *surplus* refers to a quantity or amount over and above what is needed to stay alive.

Page 64: ● The three things necessary for civilization: (1) a surplus of food, (2) a division of labor, (3) cities.

Yes, teams of Sumerians working together had produced a surplus of food. Creation of a surplus enabled some men to work at specialized jobs. The craftsmen, merchants, etc., lived in cities and were able to exchange goods and services for the food produced by the farm workers. The Sumerians were, indeed, civilized.

? ● Each person, working by himself and trying to produce everything for himself, works under a severe handicap. Most of his time would be spent in producing enough food to stay alive. Thus he would not be able to produce goods in great quantity, nor could he produce a great variety of goods. Many people working at many different jobs can produce a greater variety of goods, and, as each worker need produce only one kind of product, more products can be produced.

? ● With the achievement of a division of labor, each man can specialize in his particular occupation and can exchange his goods or services for other goods and services. The greater efficiency that results enables society to produce more goods. These goods probably will be better than those produced before, because each man can become a specialist in one area.

● A surplus of goods can be traded for other goods that men want or need. It can also be saved or used to invest in tools, machines, or learning.

? ● As a surplus is an amount over what is needed at a given time, a portion of it may be set aside for a time when there is no surplus. The portions set aside may accumulate as savings. A surplus may be converted into another form of wealth through trade, and the wealth may also be accumulated as savings.

Savings become capital when they are used to supply the means of production.

? ● Some capital goods of Sumer: irrigation canals, tools, cities, trading ships. *Consumer goods* are those that directly satisfy human wants and needs. Some consumer goods of Sumer: grain, jewelry, cloth, spices, armor, weapons, furniture, pottery.

Page 65: ? ● Craftsmen and other specialists need a market for their goods and services. They also depend on others for most of their own needs. Hence, the need for living close together and having a city, or central marketplace, that served city dwellers as well as people in the surrounding areas. Especially before the advent of modern arms and weapons, people living in a city community could band together for defense more easily than those scattered through the countryside.

Page 67: ► Have the students use the map to determine possible overland or water routes that Sumerians could have used to reach the trading areas mentioned in the text.

► Sumerians traded their surplus grain and cloth.

? ● The idea of necessities versus luxuries is an interesting economic concept. Show how the concept is relative to cultural assumptions and accepted standards of living. Even the way humans satisfy basic needs (food, clothing, and shelter) varies from culture to culture. Further, many things considered necessities in one culture are luxuries in another: e.g., many Americans would classify as necessities such conveniences as indoor plumbing, hot and cold running water, electricity, etc.

Sumerians traded for both necessities (wood, stone, metal) and luxuries (dyes, jewels).

► The automobile would probably be considered a necessity in the United States and a luxury in India.

Page 70: ? ● The great variety of goods and services made possible by a wide division of labor necessitates a medium of exchange upon whose value all can agree, one that is acceptable as an exchange for any goods or services. Money is such a medium of exchange.

? The situation suggested would be extremely inconvenient for the teacher and for those paying for her services. How would a value be assigned to those services in terms of books, bus rides, dresses, etc.? What if the teacher did not receive everything she needed or wanted in return for her services? Suppose she needed a pair of shoes. She would not only have to find someone who had a pair of shoes to trade, but someone willing to trade the shoes for her teaching services or for some other item she possessed. These and like problems should suggest themselves readily to the students.

► Silver was better than barley as a medium of exchange because transactions were easier to complete when a small piece of silver stood for the value of a measure of barley. Further, silver could be saved indefinitely, but barley had to be "spent" before it spoiled.

Page 71: ► No; we use mostly paper currency (bills, checks, money orders). Until recently, paper money was usually backed by reserves of gold or silver held by the government or the central bank. In most countries today, however, the value of money is determined by the credit of the government that issues it and by the amount of money in circulation in relation to available goods and services.

? ★ Paper money is more convenient: it is easier to make, to transport, to handle, and is lighter than metal. Paper money can be issued on the basis of a government's possession of specified quantities of a precious metal (usually gold or silver) used as the monetary standard, or on the basis of the government's credit.

Page 72: ? ● A good deal of the surplus would probably be consumed, but not necessarily all of it. Over a long period of time, individuals or groups could save some of the surplus, trade it for another form of wealth (perhaps silver), and invest this in capital goods. However, vast amounts of wealth were accumulated more rapidly by larger initial investments of surplus by the privileged classes.

? ● One of the paradoxes of civilization is, or was, that it depended on the sacrifices and labor of the masses of the population who were usually poor. What compensations did these workers have as compared with members of an uncivilized tribe? Greater security of food and some opportunities for knowledge and progress, no doubt, but the plums of civilized living were restricted to a minority until the invention of power-driven machinery in the past two centuries. The use of machinery to do the work of many laborers enables an advanced country, such as the United States, to exist without depending on a large group of poor workers.

? ★ In India, 80 out of every 100 must work as farmers. In the United States, the ratio is about 5 out of every 100. A combination of factors is responsible for the disparity, chief among them being the large farms in the United States, and the widespread use of farm machinery and modern agricultural methods, which make it possible for a small percentage of the labor force to produce huge amounts of food. India, on the other hand, is still in a state of transition from a traditional agricultural to an industrial economy.

Page 73: ● In an economy such as that of Sumer, labor would tend to get just enough of the production to keep all the workers alive. What remained (the surplus) was in the hands of management (the priests and their helpers, who were a small minority). Management could use the surplus either as capital or for wages for management. Therefore they would naturally have access to more goods and services per person than the workers.

The priests controlled both management and capital.

● Priests and their helpers gained power because they had the knowledge necessary to ensure an adequate supply of food—even a surplus. Because they controlled the surplus, they could also pay soldiers to defend their power and property. They were helped to keep their power by Sumerian ideas about the gods.

ACTIVITIES

? Throughout the study of Chapters 3, 4, and 5, encourage students to be on the lookout for pictures to illustrate charts on American and Sumerian cultures. These charts should follow the "Questions To Ask About a Culture" and may be used for review.

? Prepare a set of overlays of a map of Mesopotamia to show rainfall, physical features, and the location of Sumer. Students may use the overlays to describe Sumer's natural environment and to show the cultural changes Sumerians made in that environment.

? Research and report:

Flood control in Sumer (cause of floods, levees, canals, irrigation)

Farming in Sumer (principle crops, agricultural methods, location of farms, surplus)

Sumerian cities (general city plan and appearance, kinds of shops, markets)

Sumerian trade (kinds of surplus used, barter, transportation, trading centers, goods received in trade)

Help students prepare a large map (based on the one in the text, page 66) showing places where Sumerians traded. The map may be marked to show probable trade routes and transportation used. Pictures or samples of goods traded may be added to the map at appropriate locations.

The early Sumerians used barley as a medium of exchange. Have the class find out what products are commonly used as a medium of exchange in some places of our present-day world. What was valuable as a medium of exchange in colonial America? Why?

One group of students may enact a scene involving barter; another group should use money as a medium of exchange. Lead students to understand the advantages of money as a medium of exchange (e.g., have them discuss why it would be hard to barter at a department store or at a supermarket).

Questions for discussion:

Why did the Sumerians raise more grain than they needed?

How did a division of labor contribute to the growth of civilization?

How did trade contribute to the spread of civilization?

What four things are necessary for a civilized economy? Why are these things necessary?

Arrange a class visit to a museum that contains Sumerian artifacts, or use the Fine Arts section of your local library to locate pictures of Sumer and examples of Sumerian crafts. Students might make sketches and take notes to use in preparing reports for presentation in class. Reports dealing with tools, trade, crafts, and transportation would be especially relevant for Chapter 3.

CHAPTER 4

What the Sumerians Believed and What They Knew

Text pages 75-91

In this chapter, the method for studying the culture of a society (introduced in Chapter 3) is applied to the analysis and reconstruction of Sumerian culture in its religious, philosophic, intellectual, and artistic aspects.

Text Outline

What Did the Sumerians Believe About the Gods?
The Sumerian Story of the Great Flood
The Sumerian Story of the Creation of the World
What Did the Sumerians Believe About the Meaning of Their Lives?
The Sumerian Story of the Creation of Man
The Story of the Building of the Tower
What New Knowledge Did the Sumerians Develop?
New Knowledge — Arithmetic
New Knowledge — Sumerian Writing
Writing on Tablets and Cylinder Seals
A Story of Gilgamesh

	CONCEPTS	OBJECTIVES Questions to be developed*
	The growth of polytheistic religious beliefs and the implications of such beliefs	What did the Sumerians believe about the power of the gods? What did they believe about the meaning of their lives?
	The impact of ideas on culture and history	How did Sumerian religious beliefs affect their lives?
	The idea of a ruling class	How were the priest-kings able to attain control over the Sumerians?
	Political power as a factor in the rise of civilization	Could civilization have arisen in Sumer without the direction and control of the priest-kings?
	The importance of invention and discovery in human progress	What new knowledge was originated and developed by the Sumerians?

Behavioral Indications: **Discussion of these questions and problems will show whether students understand the concepts and can apply them to the material presented in this chapter. The questions may also be used for review and evaluation.*

BACKGROUND INFORMATION

See pages 111-121 for *Resources.*

SUMERIAN RELIGIOUS BELIEFS

The Sumerians believed that a pantheon of gods ruled the universe according to a list of rules, called *me's*, which the gods had established. There were *me's* for the good in the world like honesty, justice, kindness, and peace. There were also *me's* for the evil in the world like pain, lies, wars, and fear. While no answer has been found to the question of why the gods planned for evil as well as good, Sumerian writings reveal the view that the will of the gods could never be completely known to men and that, at best, men could only plead with the gods.

The oldest surviving epic poem in history, *The Epic of Gilgamesh*, which dates from the beginnings of civilization in Sumer, expresses man's helplessness: "Mere man—his days are numbered; whatever he may do, he is but wind." In another Sumerian poem, a sick man pleads with salt to help him overcome a fever. This serves to illustrate well the Sumerian belief that all objects of the earth were animate—possessing power, wills, and personalities of their own. Another well-known Sumerian writing, *The Righteous Sufferer*, bemoans man's fate and is believed to be the forerunner of the Biblical Book of Job.

SUMERIAN MYTHOLOGY

Who were the all-powerful gods of Sumer? At first, An, the god of heaven and the father of the gods, had been the chief god and head of the heavenly assembly. Later, Enlil, the god of air, took his place as chief god. A Sumerian myth tells how Enlil separated heaven and earth, made all vegetation grow, and created the pickaxe and plow, which he gave to the "blackheads"—as the Sumerians called themselves. Many hymns pictured Enlil as a kind father who watched over the Sumerians. However, it was also Enlil's job to carry out the destruction ordered by the gods. Kings in Sumer claimed to receive their kingship from Enlil. Yet, despite his power, Enlil could be punished by the assembly of the gods. A legend tells how he was banished to the underworld for a time for mistreating the goddess Ninlil.

In addition to An and Enlil, five other major gods took part in deciding the "fates." Enki was the god of wisdom and of lifegiving waters. It was he who organized the earth according to Enlil's and An's plans. He filled the Tigris and Euphrates rivers with water. He placed the fish in the rivers and the reeds in the marshes. He ordered the rain to fall on the earth and the planted seeds to grow crops. He appointed minor gods to supervise the rivers, canals, and all he had created. It was Enki who gave to kings their wisdom and to craftsmen their skill.

Ninhursag, also known as Nintu and Ki in Sumerian writings, was the mother of all living things. She was "Mother Earth"—the source of fertile soil—and the mother of the gods. One of the legends tells how she helped to create man from clay so that the gods would not have to work for their food.

The other major gods were the moon-god, Nanna, who was also known as Sin; Nanna's son, the sun-god, Utu; and Nanna's daughter, Inanna or Ishtar, the goddess of love. Fifty other gods were called "great gods"; these were the Anunnaki, or children of An. In addition, there were countless gods of lesser importance.

Since the greatest gods were busy with many important undertakings, each Sumerian believed he had a minor god as his personal god. He pleaded with this personal god to intercede for him with the more powerful gods. Through blind obedience to the whims of their willful gods, the Sumerians hoped to gain protection and success on earth. To the Sumerian, success meant health and a long life, respect in the community, wealth, and many sons.

THE ZIGGURAT AND THE GODS

The largest and most impressive building of each Sumerian city was its temple, which the Sumerians believed to be the home of the city's chief god. From the earliest days of Sumer, the temple of each city was built on a high platform to safeguard it from southern Mesopotamia's unpredictable floods. As the city's wealth grew, the temple became a high, terraced pyramid with each story smaller than the one below. This style of building, called a ziggurat, became the symbol of Sumerian religious architecture. The ruins of the ziggurat of Ur show that its platform was 200 feet long and 150 feet wide. It rose 70 feet above the plain.

Lacking stone and timber, the early Sumerians used mud bricks as their building material. To beautify the temple's dreary mud wall, small clay cones, dipped in red, black, or buff paint, were often inserted into the mud plaster so as to form triangles, zigzags, and other patterns. When trade brought new materials and gems to Sumer, these were used to adorn the temple. A Sumerian poem tells how Enmerkar, king of the Sumerian city of Erech (also known as Uruk and now known as Warka) threatened to destroy the Persian city of Aratta if its people did not send him gold, silver, lapis lazuli, precious stones, and "stones of the mountain" to build and adorn his temples and shrines.

Inside every Sumerian temple was a niche for the god's emblem or statue. Before it stood a mud-brick table for offerings to the god. In the highest story of the temple, which only the most important priests entered, the god was served regular meals of the finest food: fish, mutton, honey, beer, cake. Here, also, the god communicated his wishes to the priests and received sacrifices and married women. That a system of religious prostitution existed is evidenced by the number of women who served the temple for a lifetime and gave birth to children by unknown fathers. These children were legally adopted by Sumerian families, and Sumerian law provided that they share in their adoptive parents' estates.

SUMERIAN WRITING

The origins of writing are of interest to youngsters. The process of development was long and complicated and appears to have been as follows: First, drawings were used to represent objects. Alternatively, arbitrary symbols were also used as mnemonics, i.e., devices to jog the memory. Drawings and symbols were simplified and stylized, and were used not merely for objects but for "ideas" and actions and relationships. Such were the early ideographic and pictographic scripts, of which Chinese is a surviving example. The cuneiform script of the Middle East and hieroglyphs of the Egyptians were similarly based originally on equivalence between symbols and words or between symbols and whole phrases.

In Sumer at a fairly early stage the cuneiform script began to represent syllabic sounds instead of whole words or ideas, and it was adapted to other languages like Elamite and Akkadian.

The next and highly important development was alphabetic writing, with which we are not concerned at this point. It seems to have originated with the Phoenicians and Greeks. Its advantages over the earlier systems are obvious. (See articles in encyclopedias on "Writing," "Alphabet" and related topics.)

SUGGESTIONS FOR TEACHING

The most important concepts in Chapter 4 are Sumerian religious beliefs and their influence on every aspect of Sumerian life. As students continue their analysis of Sumerian culture, they should perceive this influence in Sumerian art and architecture (paintings and statues of the gods, ziggurats built in their honor), social classes (rise of powerful priest-kings who ruled for the gods; servants, or slaves, who labored for the gods), literature (man's complete dependence on capricious gods in *The Epic of Gilgamesh*), and in the development of new knowledge (writing, arithmetic) directly related to the Sumerian way of life.

Of the several paraphrased Sumerian stories appearing in Chapter 4, those concerning the great flood and the creation of man should receive greater emphasis since they illustrate important concepts in concrete terms. The others may be read to the class or assigned as outside reading.

Although floods were common in this part of the world, Sumerian writings refer to a great flood, which was more devastating in its effects than any other flood. The Sumerians dated events as having occurred either before or after this great flood. The flood story paraphrased in the text was probably the source for the Biblical flood story. As described in the *Background Information* for Chapter 2, Woolley found evidence that such a great flood did occur in Mesopotamia.

It would be helpful to have some pictures or samples of Sumerian writing, numerals, and cylinder seals on hand when presenting those parts of the chapter dealing with new knowledge developed by the Sumerians.

INTRODUCTORY INQUIRY ACTIVITY

? Display the chart "Questions To Ask About a Culture." Let students summarize briefly what they have learned about land and goods in ancient Sumer. Then have them page through Chapter 4 noting subtitles and illustrations. Ask, "Which questions on the chart will be studied in Chapter 4?" As study of the chapter progresses, students should answer the questions about Sumerian religion, knowledge, and art.

NOTES ON QUESTIONS

Page 75: ► In addition to floods, rain, wind, and sun, forces of nature that might have filled the Sumerians with fear and wonder included thunder, lightning, earthquakes, eclipses of the sun and moon.

Page 77: ► A great flood is described in the Bible (Genesis 6:5-13) in the story of Noah and the ark.

► Noah is the hero of the story. He survived by building an ark (boat) in which he, his family, and a variety of animal species lived until the rains stopped and the waters subsided.

● One would guess that the Sumerian story is more ancient than the Bible story, since Sumerian civilization is believed to be the world's first civilization.

? ● The story itself, and the fact that the Sumerians told such stories, give us a clue about the Sumerians' fear of the power of the gods. Notice that after releasing the furor of the flood, "even the gods were frightened by what they had done." The man who was saved offered sacrifices to the sun god, probably out of fear as much as gratitude.

Page 78: ● The Sumerians depended on the yearly floods for the successful irrigation of
? their crops, and they believed that the gods controlled the floods. When the

gods were angry, floods could be violent, sweeping away crops and homes; or floods could be so low that crops would fail, which might result in famine. No one could tell whether the gods would be benevolent or angry. Man lived in fear of their anger and tried to placate them.

? ★ According to the Bible account (Genesis 6:5-13), God was moved by man's wickedness to destroy mankind. He made it rain for forty days and nights, causing a great flood.

You may wish to point out the difference between the gods of the Sumerian story and God in the Bible story. The Sumerian gods were whimsical and temperamental; Noah's God is just and concerned with the moral behavior of men. The Sumerian gods decided to destroy mankind because "the people made so much noise that the gods could not sleep." Noah's God, after seeing the wickedness of men, "was sorry that He had made man on the earth, and it grieved Him to His heart."

Page 79: ► The most familiar story will probably be that related in the Bible (Genesis, 1:1-25).

? ★ The Bible story and the Sumerian story are alike in that both begin by relating the creation of heaven and earth. Much of the phraseology is similar; e.g., the Sumerian "And the world was bright"—the Biblical "And there was light." However, the Biblical story speaks of one God responsible for the creation of all things in heaven and on earth, whereas the Sumerian story credits a series of gods for the successive creation of natural forces.

► The Sumerian story is more ancient.

Page 80: ► The creation of man is related in the Bible (Genesis 1:26-2:23).

? ★ Both the Sumerian and Biblical stories of man's creation relate that man was created first; then woman. The Sumerian story says that the gods made man from river mud and gave him life. The Bible says God created man from "dust from the ground and breathed into his nostrils the breath of life."

Notice that the capricious Sumerian gods created man to appease the goddesses and to guarantee that their needs would be satisfied without overexertion on the part of the gods. In the Bible, however, God is just and loving and concerned with man's happiness: "It is not good that man should be alone."

● The Sumerians believed they were created to be servants of the gods, destined to work hard in order to free the gods from having to work.

Page 81: ► A ziggurat was made of mud brick held together by a mortar made of "slime." The ziggurat was shaped like a hill or mountain; it was called the "mountain of the god."

The exterior of the ziggurat was often decorated with enameled tiles and brilliantly colored pieces of pottery. The interior was paneled with cedar, cypress, gold, alabaster, and marble.

Page 82: ► As man's relationship with the gods dominated the Sumerian way of life, religion was a very important part of Sumerian culture.

? ● As we have seen, religious ideas affected every facet of Sumerian life: *Government*—Since the Sumerians believed that the priests represented the powerful gods, they accepted the authority of the priests who governed them.

Farming the land—The ideas of the priests (who had more time to think and gain knowledge) were accepted by the workers who farmed the land.

Ownership of the land—Again, the priests, as representatives of the powerful gods who owned the land, could decide what was to be done with the land.

Dividing the surplus—Since the priests were the managers, they decided how the surplus would be divided.

Sumerian self-image—The Sumerians' belief that they were created to serve the gods did, of course, make them think of themselves as slaves of the gods. Therefore, they had to find out from the priests what the gods expected, and obey the wishes of the gods.

Page 84: ► The numerals for 1 and 60 look alike.

cap. Students should use the symbols on the chart to follow the problem. The Sumerian example does not actually include a symbol for addition.

Page 85: ► The base of our decimal system is 10.

? ● Some time measurements using 60: 60 seconds = 1 minute; 60 minutes = 1 hour.

? ★ An angle of 90° is a right angle. An "angle" of 180° looks like a straight line.

Page 86: ► The wedge-shaped writing is called cuneiform.

Page 87: ? ● The use of certain symbols or characters for sounds and words led to the formation of a uniform alphabet which made writing more precise and permitted a more accurate verbalization of ideas.

? ● In a sentence, a writer can show the relationship of one word or idea to other words and ideas. Hence, it was possible to express a wider range of ideas, and more abstract ideas, in the form of sentences. The use of sentences extended the range and accuracy of communication.

Increased skill in the use of words and the formation of sentences led eventually to the development of a body of literature and the codification of laws.

Page 88: ? ● Writing is so basic to our lives that we can hardly grasp the achievement of the Sumerians in inventing a system of writing. Have the students list their dependence on the written word in a typical schoolday. Then have them discuss what a schoolday would be like if writing had not yet been invented.

? ● Sumerians could use the skill of writing to keep track of business deals, write orders, prepare and sign contracts, advertise their wares, inquire about new trade, etc.

Page 89: **cap.** The third cylinder seal made the signature.

Page 91:

- ? The story of Gilgamesh, taken from *The Epic of Gilgamesh*, can be read on two levels. On one level, it is an adventure story. On another, it is a tale of man's endless struggle against evil and death. Gilgamesh expresses the Sumerian idea of man's complete dependence on the gods in the words: "Only the gods live forever. Since we are men, our days are numbered. Our cares are but a breath of wind." Even the mighty Gilgamesh, faced with the overwhelming power of Humbaba (or evil), was forced to turn to the gods for salvation.

- ? From the story, if the students can be led to equate Gilgamesh with good and Humbaba with evil, they will see that the Sumerians wanted good to conquer evil. However, the Sumerians realized that it was difficult to be good. Notice that, for a moment, Gilgamesh was tempted by Humbaba's promises to make him lord of the forest. In the end, good triumphs over evil.

ACTIVITIES

? Have students make a series of drawings of clay tablets to illustrate the development of Sumerian writing. For example, one tablet could have pictures of objects such as cows and sheep. The next one could illustrate the use of a foot to mean "to stand," "to walk," "to run." (The students could write simple sentences, such as "The girl stands. The girl walks. The girl runs." The picture symbols for all three sentences would be the same.) Also let them try to illustrate words that represent abstract ideas—justice, truth, courage. These exercises should help the students understand the unwieldiness of a system of picture writing.

? Discuss the role of natural catastrophes or disasters in human societies. What kinds of disasters do we sometimes suffer in the United States (floods, tornadoes, forest fires, earthquakes)? What are the causes of natural disasters? What did the Sumerians believe to be the causes?

? Read to the students or have them read the passages in Genesis that refer to the creation of the world and of man, the flood, and the building of the Tower of Babel. Have a class discussion on how these stories compare to the Sumerian stories.

? Students may prepare and then explain a large illustrated chart "The Sumerian Idea of Life" (see text, page 83). Have them compare the Sumerian with the American idea of life.

? Show pictures or models of the following: Sumerian gods, a ziggurat, a cylinder seal, a sample of cuneiform writing, a scene from the story of the flood. Have students identify each item and tell something about it.

CHAPTER 5

How the Sumerians Lived

Text pages 93-103

Chapter 5 continues to apply the method for studying the culture of a society (introduced in Chapter 3) to the analysis and reconstruction of Sumerian culture in its political and sociological aspects.

Text Outline

How Were the Sumerians Governed?
What Kind of Laws Did the Sumerians Have?
The Time of Trouble
Did the Sumerians Live in Family Groups?
Did Sumerian Children Go to School?
A Bad Day at School
What Have We Learned About Sumerian Culture?

CONCEPTS	OBJECTIVES Questions to be developed*
The impact of ideas on culture and history	How did Sumerian religious beliefs affect their political organization? Their social structure? What did they believe about right and wrong?
Aesthetic values	What can we learn about the Sumerians from their sculpture, architecture, and literature?
How government and law originated	How were the Sumerians governed? What was the nature of their legal code?
Social institutions and social structure	Did the Sumerians live in families? Did they have classes? Were there slaves in Sumer? What was the structure of Sumerian society?
The nature of historical evidence and methods used to find out about earlier peoples	How can Sumerian culture be reconstructed?
Variable rates of change	Was there much change in Sumerian culture from one generation to the next?

Behavioral Indications: **Discussion of these questions and problems will show whether students understand the concepts and can apply them to the material presented in this chapter. The questions may also be used for review and evaluation.*

BACKGROUND INFORMATION

See pages 111-121 for *Resources*.

GOVERNMENT AND LAWS

The rise of civilization calls for far more detailed and complex regulation, leadership, and planning than found in primitive and tribal societies. Many factors contribute to this need: the size of society, its class structure and specialized functions, private and public property and wealth, congested cities, and last but not least, defense, which is increasingly vital as a society accumulates tempting wealth. The problems to be solved, then, are twofold: first, internal order; second, external protection.

But why do men obey interfering and often arbitrary governments? If we exclude mere habit, there are three main possible reasons: (1) rational self-interest; (2) irrational or emotional convictions; (3) fear of and submission to coercive power. In the case of Sumer we can see all three motives at work, but the second, the religious sanction imposed by fear of the gods and desire to propitiate them through the priests, seems to have been most important in the early stages of civilization. This process has often been repeated: the powers of priest and ruler are combined in early stages of a given culture, and the sanction of religion provides the force that compels men to obey.

The later development of written laws shows a more advanced, rational system of government than earlier arrangements in which law, justice, and punishment were at the discretion of the ruler and his officials.

It is desirable to remind the student of certain basic concepts of political science. In particular, note that government is necessary in any society, that its work increases with the complexity of society, and that it is inevitably prone to abuse its power. Hence men have struggled through the ages to discover ways of organizing government to prevent abuses of power. Evidently the Sumerians used, though not very effectively, two devices: written laws, which gave some security to individuals, and, occasionally, something in the nature of representative assemblies or councils.

THE SUMERIAN FAMILY

While Sumerian law recognized monogamy, it also recognized polygamy and a system of concubinage. The following are some Sumerian laws that deal with relations between men, women, and children:

1. If a husband rejects his first wife and marries a second wife, he shall continue to support his first wife if she has not left his house.

2. If a second wife bears her husband children, then her children shall inherit the dowry she brought him from her father's house. However, both the children of the first wife and the second wife shall divide equally the property of their father.

3. If a married man with children also has children by one of his slaves, and if he grants freedom to the slave and her children, the children of the former slave shall not share in his estate upon his death.

4. If a man's first wife dies and after her death he takes his slave as his wife, the children of his first wife are his heirs.

5. If a man's wife has not borne him children, and if he has fathered children by a harlot from the public square, he shall provide the harlot with grain, clothing, and oil and her children shall be his heirs. However, as long as his wife lives, the harlot shall not live in his house.

SUMERIAN SCHOOLS

The rise of learning leads necessarily to the setting up of formal institutions of education; hence the first schools in the world are found in the first experiment in civilization.

The Sumerian curriculum emphasized those skills needed in business and trade—writing and mathematics. Schoolboys also learned to read, to study the stars (which were believed to influence the affairs of men), and to make maps of trade routes. They were taught Sumerian laws, stories of the gods, and foreign languages.

SUGGESTIONS FOR TEACHING

Chapter 5 completes the analysis of Sumerian culture with special emphasis on Sumerian social and political life. Through the study of Sumerian laws, families, and education, students should be able to reconstruct a picture of everyday life in Sumer. Knowledge of Sumerian social classes (priest-kings, temple assistants, free men, slaves) and government (rule by priest-kings) should reinforce students' understanding of the influence of Sumerian religious beliefs on all aspects of life.

The teacher should be alert to opportunities for comparing Sumerian culture to the students' own culture. Chapter 5 provides for a natural culmination of the study of Sumerian culture begun in Chapter 3.

Periodically the teacher should check on the progress of assigned projects and give help where needed. The students may need more resource material for reports, completing charts, and illustrating charts, booklets, and murals. Note progress in research skills, e.g., selecting appropriate sources, note taking, organizing data. Are the students incorporating more of the social science vocabulary in their reports? Check on their use of the glossary in this regard.

INTRODUCTORY INQUIRY ACTIVITY

? Display the chart "Questions To Ask About a Culture." Students should summarize what they have learned about ancient Sumer. Ask, "What other questions must we ask about Sumer's culture? Can you answer any of these questions now?"

NOTES ON QUESTIONS

Page 94:

? ● *Patriotism* refers to love of or devotion to one's country. The Sumerians were patriotic, but not in the same sense that Americans are devoted to the United States. Sumerian loyalty did not extend to Sumer as a whole; it was limited to a particular city. Sumerian patriotism was on a civic, not a national, level.

? ● A civilized society benefits tremendously from a set of written laws, for then all men can be expected to know and obey the laws, or face the consequences.

? ● Without a written code, unscrupulous rulers can twist the laws to their own ends and change them according to whim or circumstances. A written code is a step toward fairness and justice in society.

Page 97:

● Students should understand that the punishment goes beyond the specific example of an "eye for an eye" and a "tooth for a tooth." The law implies physical punishment in kind for any injury.

? ● Sumerian laws are similar to ours because (1) they are written down so that all men know of them and (2) they name the penalty for failure to obey the law. Also the Sumerian laws listed money fines rather than cruel "eye-for-an-eye" penalties. On the other hand, slavery was legal in Sumerian society, whereas it has been outlawed from our own.

Page 98: ? ● Men often allow their rulers to assume emergency powers in time of war to increase government efficiency against a common enemy. They expect such power to be temporary and to be given up after the danger is past; however, it is often difficult for men who have tasted tremendous power to relax their controls later. Thus conflict arises.

● From the story, the students should be able to see that the Sumerians had a high regard for law, for law came from the gods. The people endured even the unjust rulers until the gods saw fit to replace them.

Page 100: ● Family life in Sumer was similar in many respects to family life in the United States today: e.g., makeup of the family; father as head of the household; monogamy as the general rule; women in business. However, there were important differences: Sumerian women and children could be sold as slaves to satisfy debts; disobedient children could be sold by their parents; children were required to obey older brothers and sisters; parents arranged children's marriages.

? ● Answers will vary.

Page 102: ? ● The main difference to be noted is that only Sumerian boys, and only those of the upper class, were able to go to school, whereas boys and girls of all social strata are required to go to school in the United States. Notice also that the Sumerian schools were professional schools, geared to turning out men who could earn their living as scribes.

ACTIVITIES

? Use the following questions to guide a discussion on the reason for priestly rule in Sumer: "Who would most likely be the manager or leader in a food-gathering community? Why? Who would most likely be the manager or leader in a hunting community? Why? Who might be the manager or leader in a farming settlement? Why? Who were the first managers in Sumer? Why?"

? Students might make their own illustrated versions of the chart entitled "Priestly Rule in Sumer," shown on page 94 of the text. Have several students explain their charts to the class. Then help them prepare a chart showing how the United States is governed. The two types of government should be discussed and compared.

? Discuss the question of whether societies change, and if they change gradually or quickly. Students may cite examples from American history as well as from what they have learned about changes in Sumer (e.g., laws, inventions and discoveries, size of cities, degree of division of labor, trade).

? Discuss with the students the possible differences between life in a primitive society and life in a civilized society.

1. What lessons about the division of labor are found in a primitive society? Is division of labor more complex in a civilized society? Why?

2. Is there any money in a primitive community? In a civilized society? Why or why not?

3. In a primitive community, is there any surplus to invest in tools, machines, or learning? Would the same be true in a civilized society? Explain.

4. Is there a need for schools in a primitive society? In a civilized society? Why or why not?

5. Would there be greater class distinction in a primitive community or in a civilized community? Why?

? Have the students prepare clay models of some of the Sumerian artifacts shown in Chapters 3, 4, and 5, and drawings of events in the life of a Sumerian schoolboy, priest, farm worker, slave, etc. Display the completed projects and use them to help students compare what they have learned about life in 3000 B.C. to life in America today.

? Students might act out a schoolday in Sumer. Use the dramatization to motivate a comparison of Sumerian and American schools.

? Help students prepare a newspaper of life in 3000 B.C. using topics covered in Chapters 3, 4, and 5. Front-page news might include coverage of a flood, something about taxes, or the gods. Editorials might urge proper care and repair of canals. A "Women's Page" might include Sumerian fashions, etc. Include advertisements of Sumerian goods and services.

CHAPTER 6

The Fall of Sumerian Culture

Text pages 105-117

Chapter 6 treats some of the geographic and political changes that contributed to the decline of Sumerian culture and the spread of the idea of civilization through trade, travel, and war. It also introduces the role of barbarians and the use of armed force in the destruction and formation of empires.

Text Outline

Geographic Change in Sumer
The Rise of City-States
The Rise of Military Kings
The Coming of the Barbarians
The Idea of Civilization Spreads to Other River Valleys
Sargon the Mighty
The Blending of Cultures
The Fall of Sargon's Empire
Hammurabi and the Triumph of Babylon

CONCEPTS	OBJECTIVES Questions to be developed*
The spread of civilization	What role did trade and travel play in the spread of civilization? What role have war, armies, and weapons played in the spread of civilization? What is the relation of "barbarians" to civilization? How did the formation of empires help civilization to spread?
Geographic factors in the decline of a culture or civilization	What geographic change contributed to the decline of the Sumerian culture?
Political power as a factor in the decline of a culture or civilization	What political changes contributed to the fall of Sumer?
The impact of ideas on culture and history	How did the idea of civilization aid in the rise of Egyptian and Indus River Valley civilizations? What effects did acculturation have on civilization?

Behavioral Indications: **Discussion of these questions and problems will show whether students understand the concepts and can apply them to the material presented in this chapter. The questions may also be used for review and evaluation.*

BACKGROUND INFORMATION

See pages 111-121 for *Resources.*

THE FALL OF SUMERIAN CULTURE; BARBARIANS

The causes of the fall of Sumerian culture are covered in detail in the text. It will suffice here to mention only that the term barbarian should be introduced carefully. The term is used technically to describe a group or groups that threaten civilization. The barbarian is the outsider, the marginal participant in civilization, located on the geographic fringes. Note that barbarians are *not* the same as savages or primitive peoples. The term barbarian is simply a most useful one to describe the successive outside pressures to which every culture appears to be liable as soon as it attains a high degree of civilization.

SARGON AND HAMMURABI—THE AKKADIANS AND THE BABYLONIANS

A new period in Sumerian history began about 2350 B.C. when Sargon the Akkadian drew together all the city-states of Sumer and Akkad under his rule. Sargon was a Semite. Over the preceding years the Semites had been assimilating the Sumerian culture until little difference remained between the two ethnic groups except the language. Thus, when Sargon took over the Sumerian city-states, he was not really regarded as an outsider. Nevertheless, Sargon had to wage "brushfire" wars throughout his reign to keep the city-states from revolting and overthrowing him.

Sargon was an excellent strategist. Before he attacked the southern Sumerian city-states, he had made certain to capture and consolidate the city-states to the north so that he was fighting on only one front. His strategic brilliance showed itself again and again as he expanded his kingdom into an empire.

Though his 56-year reign was marred by innumerable wars to maintain what he had acquired, the dynasty he established lasted for almost 200 years. His grandson, Naran-sin, pushed the frontiers of the Akkadian Empire even farther. Sumerian culture survived only in combination with Akkadian culture.

The combined Sumerian-Akkadian culture underwent further change c. 1700 B.C. when it came under the control of the Babylonian king, Hammurabi. For the next thousand years, civilization in the Tigris-Euphrates valley was kept alive by the Babylonians. The stories of the Hebrews, who had been captives in Babylon, and the writings of the Greeks told us about Babylonian civilization. These sources enabled us to trace Sumerian civilization, which was the forerunner of Babylonian civilization.

Hammurabi has long been credited with being the world's first maker of written laws. A stele on which the laws are engraved was discovered in the winter of 1901-1902 at Susa, Iran, once the capital of the Elamites. The cuneiform writing on the stele is Akkadian. The laws show Sumerian influence; however, scholars of this period have asserted that Hammurabi's code was harsher than Sumerian law. Hammurabi claimed that his law code was intended to improve the conditions of the weak, which would presumably, include the conquered Sumerians.

Here are a few extracts from Hammurabi's code:

1. If a citizen has been accused falsely of murder, the false accuser shall be put to death.
2. A citizen who steals property from the temple or crown shall be put to death. Whoever receives this stolen property shall die.
3. A son who strikes his father shall have his hand cut off.
4. A citizen who puts out the eye of another citizen shall have his eye destroyed.

5. A man who destroys the eye or breaks the bone of a vassal shall pay one mina of silver.

6. If a citizen cannot pay his debts and has sold for money his wife or son or daughter, they shall work for three years in the house of their purchaser and shall receive their freedom in the fourth year.

7. If a citizen's wife suffers from attacks of intermittent fever, he may take another wife. However, he shall support his first wife for life.

8. If a citizen has married a priestess-wife and she has not borne him children, he may take a votaress as a concubine if he so wishes. However, the votaress may not consider herself the equal of the first wife.

The extracts above were selected to illustrate the wide range of human activities covered by the laws of Hammurabi, which deal with the following problems: giving false witness in court, malpractice by a judge, theft and receipt of stolen goods, kidnapping, penalties of differing severity for differing social classes, debtors, marriages, adultery, control of concubinage, incest, physical violence, slavery, and the rights of primogeniture.

SUGGESTIONS FOR TEACHING

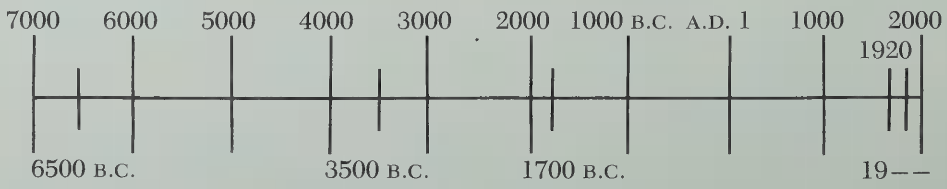
Chapters 6 and 7 and the Conclusion are the most difficult chapters in *Ancient Civilization.* Perhaps the following considerations will help in presenting this material to the students. The main idea to be grasped is *the spread of civilization.* The details of these concluding chapters are presented as illustrations of this main idea—not as facts to be memorized and learned in and of themselves. Civilization was spread by peaceful means—by trade and imitation. Civilization was spread by war—by the Akkadians, by the Babylonians, by barbarians using iron weapons. Civilization, in short, experienced strong times and weak times. Pressured by internal and external threats, cultures rose and fell, to be succeeded by other cultures. Civilization went on.

Make sure students understand the following terms and concepts in Chapter 6: city-states, military kings, the consolidation of city-states into larger political units called empires, and the organization of a society for defensive and offensive purposes. Some of these ideas can be clarified with the use of diagrams, maps, chalk sketches, and pictures.

When discussing the idea of acculturation, make sure students understand that the culture of a fallen civilization can survive, and that conquerors are often "conquered" by the culture of their captives.

INTRODUCTORY INQUIRY ACTIVITY

? Guide students in the preparation of a time line to show a span of time from 7000 B.C. to A.D. 2000.



Have students mark the line to show the development of agriculture (6500 B.C.), the beginning of civilization in Sumer (3500 B.C.), the rise of civilization in Egypt and Indus Valley (c. 3000 B.C.), fall of Sumer (c. 1700 B.C.), the time when traces of Sumer's civilization were discovered (A.D. 1920), and the present. Then ask the following questions:

What three things make civilization possible?
How many millennia after the development of agriculture did civilization rise in Sumer?
How long did the Sumerian civilization last?
What caused it to fall?
Why did all signs of Sumerian civilization disappear?
How many millennia passed between the fall of Sumer and the discovery of traces of Sumerian civilization?
Has the *idea* of civilization disappeared? Explain.
What do you think happened to civilization after Sumer was forgotten?

When the study of Chapter 6 has been concluded, ask these questions again. Encourage the use of appropriate terminology in discussing periods of time.

NOTES ON QUESTIONS

Page 106: ★ Mineral deposits will be left on the glass after the water has evaporated.

Page 107: ● ? The drawing shows the military king taking his place between the priest and the god. A military man stands guard, symbolic of the new, real power wielded by the military king. Under both kings, the peasants' role is the same.

Page 109: ► An *empire* is a group of city-states or nations under one head or government. In regard to the ancient and classical world, we use *empire* to describe the unification of large areas under central control: e.g., Babylonian Empire, Assyrian Empire, Persian Empire, Chinese Empire.

Recent empires are somewhat different. The former empires of Britain, Belgium, the Netherlands, and France are now almost completely dissolved. We hear suggestions that the United States is now essentially an empire, since its influence in many areas is very great, (e.g.: Latin America, the South Pacific, Western Europe, Southeast Asia). Clearly the Soviet Union, which claims to be anti-imperialist, is an empire. The Soviet Union controls the nations of the old tsarist empire (Lithuania, Estonia, Latvia, Ukraine, Turkestan, Usbekistan, etc.) and the nations of Eastern Europe (Poland, Czechoslovakia, Hungary, Bulgaria, Romania, and East Germany). The People's Republic of China is re-creating the old Chinese Empire, by controlling Manchuria, North Korea, and Tibet, by pressing on India's frontier, and by influencing Communist regimes and movements in Southeast Asia.

? ● As a united empire, the Sumerians could have avoided years of wars between military kings of Sumerian city-states; they would have been better able to withstand attacks by barbarians. They might also have defeated Sargon and, later, Hammurabi, thus preserving intact the civilization of Sumer.

Page 110:

- ? Sumer, located on the flood plain of the Tigris-Euphrates rivers, was without natural defenses; it was open to attack on all sides.
- A divided, quarreling people are easy prey for an attacker.
- Barbarians might become civilized by imitating civilized ways of life, sometimes by adopting the ways of the civilized peoples they conquer.
- ? The major reasons for the fall of Sumerian culture were (1) the land became too salty to grow crops, (2) the city-states began to war with one another, and (3) barbarians began to pressure the civilized Sumerians.
- ? Sumerian culture was being torn asunder, but the knowledge of civilization was spreading. More people were coming to know what civilization meant and what it entailed. Thus, even though the Sumerian civilization was growing weak, civilization itself was healthy.

Page 111:

- ? Trade items would introduce the products of civilization to uncivilized people. Ordinary conversation involved in the processes of trade and travel would enlighten uncivilized people as to the kind of living possible with the right kind of organization. Imitation of civilized products and processes would be almost inevitable.

Page 112:

- In the years preceding Sargon's conquest, Akkadians had become aware of the advantages of civilization through contact with Sumerians, their neighbors to the south. Influenced by Sumer, the Akkadians had turned from herding as a way of life to irrigation farming—an important step toward developing a civilization. After Sargon's conquest of Sumer, the Akkadians eventually became completely civilized. The Sumerian and Akkadian cultures blended, resulting in a new culture in which Akkadian characteristics predominated. This blending of cultures is called *acculturation*.

Page 115:

- Sargon faced dissension from within his empire and barbarian attacks from without.

Page 116:

- ? The need for laws is a concept developed in all grades of ERCSSP. Use an inductive approach here to show that the more complex the situation, the more the need for law and order. Some kind of rules are necessary in any society. In a civilization, new and complex problems arise which call for complex rules. In a small community, public opinion and custom control the behavior of the members of the community. In a big city, the opportunities for antisocial behavior are far greater. Consequently, the community has to set up not only a more complicated system of laws, but also a system of law enforcement.

  Hammurabi had a very large empire—hence a complex society—and a need for comprehensive, workable laws. Hammurabi's laws were especially important because they were, as far as we know, the first set of laws to be codified and written down.

Page 117:

- ? Students should be prepared to offer some geographic and political causes (salinization of the soil resulting from prolonged irrigation, boundary disputes between rival city-states, the rise of military kings and increased warfare between city-states, barbarian invasions).

- ? Barbarian invasions are most successful when launched against civilizations that have been weakened by internal pressures. The Sumerian city-states, for example, were weakened by internal dissension and by frequent warfare. Barbarian invaders often proved to be expert military tacticians. Those who invaded Sumer easily overcame the cities' defenses. The cities, located on a flood plain, were without nearby natural defenses and were open to attack on all sides.

- ? Students might speculate on the advantages of civilization. It makes possible a variety of goods and services to satisfy man's basic needs and wants. It provides more fertile ground for the growth and development of philosophy, literature, and art. It gives rise to systems of government and law.

  While the lives of many were improved as civilizations developed, countless others toiled and suffered to make civilization possible, without reaping any of its benefits. Yet, civilization offered a better way of life than its alternative. That is why barbarians wanted to share in its rewards; though they destroyed the centers of civilization, they retained the attractive idea of civilization and found that it could readily accommodate cultural changes.

ACTIVITIES

? Have students compile a list of changes that contributed to the decline of Sumer; have them divide the list into those changes that were caused by pressures within Sumer and those that were caused by pressures outside of Sumer. Discuss why a double pressure—from within and without—is more likely to cause a society's decline than a single pressure—from within *or* from without.

? Have the students prepare diagrams of the military king replacing the priest-king, using the diagram in the text as a guide. They should label each figure and explain why they are placing it in a certain position.

? Art and construction:

A tabletop map of Mesopotamia showing physical features. Demonstrate how barbarians would find it easy to attack the open frontiers.

Pictures that illustrate political change that contributed to the fall of Sumer, e.g., the overlapping of city-state boundaries, the building of canals that directed water into the fields of one city-state and away from the fields of another city-state. Describe why such practices led to war and a weakening of Sumer.

Pictures that illustrate Sumerian weapons, armor, and methods of warfare described in the text. Later, these drawings can be used as illustrations of how the barbarians borrowed ideas of warfare from civilized peoples—and improved them.

Map and globe study:

On a globe or a world map, mark the locations of Sumer, Egypt, and the Indus Valley. Use longitude and latitude lines to describe the locations.

Display maps showing the empires of Sargon and Hammurabi. Compare with an up-to-date map to show present political divisions of the former empires.

? To show the spread of civilization, use transparencies of maps showing Sumer and the empires of Sargon and Hammurabi.

? Have students prepare time lines to show important events in the rise and fall of civilization, beginning with Sumer and ending with Egypt and the Indus Valley.

? Topics for reports or discussion:

The meaning of *civilization*: How does it rise? Fall? Spread?

The meaning of *barbarians*. (Make sure that the technical meaning of the term is understood.)

How city-states became empires.

How two cultures blend. (Students should give specific examples of changes in Sumerian—Akkadian—Babylonian cultures. These may be illustrated with pictures from the text or from books listed in *Resources*.)

How Hammurabi's laws compare with the laws of Sumer or with our own laws.

CHAPTER 7

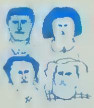
The Spread of Civilization

Text pages 119-141

Chapter 7 covers the rise of two other ancient river valley civilizations—in Egypt and in the Indus River Valley. It shows how closely all three of the earliest civilizations paralleled one another in development, and how the skills, methods, and social organization of civilization spread through trade, wars, and proximity of neighboring peoples to civilizing centers.

Text Outline

River Valley Civilizations
Egypt: The Nile Valley Civilization
The Civilization of the Indus Valley
Civilization Spreads to Rain-Watered Lands
A New Way of Fighting: The War Chariot
New Empires Come into Being
Iron Weapons and Another Wave of Barbarians
The Last Great Empire of the Ancient Middle East: The Persians

	CONCEPTS	OBJECTIVES Questions to be developed*
	The nature of historical evidence and the methods used to find out about earlier peoples	How do we know about the ancient Egyptians? About the ancient Indus River Valley people?
	The meaning of civilization	What are the prerequisites of civilization?
	The spread of civilization	How did civilization spread to rain-watered lands? Where in rain-watered lands did civilization first appear?
	The interplay of man and natural environment	Why did the Egyptians and Indus River Valley people settle where they did? How did they learn to control their environment?
	The meaning of culture	What were some aspects of the Egyptian culture? What were some aspects of the culture of the Indus River Valley people?
	The impact of ideas on culture and history	How did the *idea* of civilization, as developed in the river valleys, influence the development of civilizations in rain-watered lands?

Behavioral Indications: **Discussion of these questions and problems will show whether students understand the concepts and can apply them to the material presented in this chapter. The questions may also be used for review and evaluation.*

Military power as a factor in the rise and fall of civilization

What effects did warfare have on the development of civilization in rain-watered lands?

How did the discovery of improved weapons and techniques affect the power of armies?

What were the effects of barbarian invasions on civilization?

What role did military force play in the formation of empires?

BACKGROUND INFORMATION

See pages 111-121 for *Resources*.

THE CIVILIZATION OF ANCIENT EGYPT

While the history of Mesopotamia from 3000 to 300 B.C. is a story of invasions and kaleidoscopic political changes, the history of Egypt is relatively continuous, affected mainly by internal developments. The most striking factor of Egypt's initial historical development was its swift political unification. This is in marked contrast to Sumer, where the rulers had to develop administrative techniques as they needed them, while groping toward centralized power over a long period of time. The clue to the difference between the two histories appears to be geographic. Egypt was provided with natural defenses: the sea and the desert. Mesopotamia was wide open to invasion from north, west, and east.

Egypt was comfortably isolated throughout its early history. Deserts were barriers in the east and west, as was the Mediterranean Sea in the north, and the cataracts of the Nile in the south. Thus, except for an occasional attack on the delta area or in the extreme south, the land was free from barbarian invasions. Furthermore, all the Egyptian villages lay along the Nile. The Nile provided swift and easy internal communication, enabling the royal government to send troops and officials to any part of its dominion at short notice. Through the control of shipping, the pharaoh effectively controlled all of Egypt by regulating the flow of both goods and people. Thus to control the Nile was to control Egypt. Hence Egyptian culture persisted steadily for nearly 3,000 years, while the civilization of Mesopotamia was under the influence of half a dozen or more different cultures and empires.

EARLY EGYPTIAN HISTORY (c. 3000-2200 B.C.)

Egypt was a land of enormous potential. Communication and trade were easily accomplished by the use of the Nile. The Nile also provided rich soil on a regular, renewing basis each year. The pharaohs organized and directed the native peoples. From about 3000-2200 B.C., Egypt was dominated by the royal household at Memphis. Except for Memphis, cities were nonexistent until around 1465 B.C. The village remained the basic social unit for many centuries. There was a very wide gap between the royal household and the great mass of peasant people who made up the population of these rural villages. All control of economic enterprises was in the hands of the pharaoh and his royal household. The latter included the pharaoh's local administrators—appointed officials who ruled for him in the various villages along the length of the Nile.

Under this centralized control, mighty feats were accomplished. Under the organization and direction of the rulers, peasant labor built many of the pyramids clustered near Cairo. Somehow, without the use of explosives, the wheel, draft animals, or block and tackle, these ancient people accomplished what even today, with far more sophisticated construction tools and equipment, would be prodigious feats. Stone blocks of several tons each were accurately quarried, transported for long distances, and set in place. The world's largest pyramid, that of Cheops in Gizeh, required more than two million such blocks; it stretches more than 750 feet along each base line, rises nearly 500 feet into the air, and is correctly oriented to within 1/20° of true north. When it was built, it was sheathed in smoothly finished white limestone. Furthermore, this fantastic structure was erected within a span of only 23 years, and just a little more than a century after the very first pyramid was constructed! During these days, too, the stylistic conventions of Egyptian painting and sculpture were formulated, and a body of literature including poems, myths, and other story forms came into being. The latter were products of the skilled members of the pharaoh's household.

Egyptian religion included a confused pantheon of locally revered gods plus several important ones such as Re, Osiris, and Horus. At first the pharaohs claimed to be Horus, falcon god of the sky. They termed their predecessors Osiris, ruler of the abode of the dead. Later, the pharaohs also began to call themselves sons of Re, god of the sun.

LATER EGYPTIAN HISTORY
(c. 1570-1165 B.C.)

Intermittent periods of grandeur and chaos followed in c. 2200-1570 B.C. In c. 1730 B.C., Egyptians were ruled by the barbarian Hyksos. They threw off this foreign rule about 1570 B.C., under the leadership of a Theban prince who borrowed the fighting techniques of the Hyksos, roused his fellow Egyptians to battle, and succeeded in driving the alien rulers from the homeland.

Once more Egypt was ruled by Egyptians. The pharaohs of this period were among the outstanding pharaohs of all Egyptian history. Having rankled for long years under foreign rule, and having realized that their position was no longer so secure as it had once been, these pharaohs reversed Egypt's position of political insularity. In the words of Dr. William H. McNeill in *The Rise of the West*: "With the expulsion of the Hyksos, therefore, the Egyptian rulers entered upon a cosmopolitan career in direct contact with and competition against the other great Middle Eastern river valley civilization, the Mesopotamian." So it was that the Egyptian pharaohs took on new roles as conquerors and colonizers.

Under Thutmose III, the Egyptians amassed the greatest amount of land they ever possessed. The Egyptian Empire stretched from the Sudan to Syria. The pharaoh put a viceroy in charge of the southern part of the empire—Nubia. To assist in controlling the area, the viceroy was provided with an army and administrative officials. In Palestine and Syria, the pharaoh allowed the local rulers to remain in power. These rulers paid tribute on a regular basis, and were supposed to send armed men if the Egyptian army required them. It was common knowledge that the armed might of Egypt could be brought to bear with great rapidity and effectiveness, and this knowledge kept the local rulers in line. The pharaohs had usurped the warfare technology of the barbarians, recruited mercenaries and professional charioteers, incorporated these under their strong centralized control, and fashioned an army that was a superior striking force, with troops stationed strategically throughout the empire.

Under Rameses II (1301-1234 B.C.), the Egyptian Empire flourished, but Egypt shared its Asian hegemony with both the Assyrians and the Hittites. By about 1165 B.C., Egypt had lost all its Asian possessions. Soon afterward it lost most of its prestige as a nation and became an insignificant power.

THE INDUS RIVER VALLEY CIVILIZATION

From the foothills of the Himalayas to the coast of the Arabian Sea, more than 1,000 miles in all, stretched the ancient civilization of the Indus River people. In addition to the twin capitals of Mohenjo-Daro and Harappa, numerous small towns and villages were scattered along the banks of the Indus River and its tributaries.

As was pointed out in the text, the most amazing fact seems to be not that we have learned so little about these people, but that archaeologists, historians, and other scholars have been able to learn as much as they have by interpreting the artifacts and studying the ruins of the two major cities.

The major limiting factor in increasing this knowledge has been the inability to decipher the Indus script. Thus, we have no knowledge of the names of the gods or kings of this civilization. Nor do we know of any chronicles or great poems or myths. At any rate, the door to such information is closed and will remain closed until someone "cracks" the mystery of the Indus script. Incidentally, however, it is worth noting that, unlike cuneiform and hieroglyphics, the Indus script, like so many other features of the material aspects of the culture of these people, remained unchanged throughout the history of the civilization.

Another of the many puzzles surrounding this civilization involves the details of its origin. Mohenjo-Daro and Harappa are suddenly there—systematically planned cities without any trace of their beginnings. Thus far archaeologists have been hampered in their attempts to determine what went on prior to 2500 B.C., the date commonly agreed upon as marking the beginning of the civilization. The lowest levels of these two sites are covered with ground water. Part of the Harappa site is also overlaid by a contemporary community. So, the links are missing—the stages of development from primitive to the finished product of the twin capitals are not known. Harappa and Mohenjo-Daro appear as a fait accompli. Mohenjo-Daro is located beside the Indus River in Sind; Harappa lies near the Ravi River, an Indus tributary, in the Punjab.

Yet, for all our lack of knowledge of the links between primitiveness and civilization, at least one authority (Sir Mortimer Wheeler) on the Indus River Valley civilization thinks that while such information would be interesting, it is perhaps not crucial. Sir Mortimer Wheeler's thoughts on the subject also closely parallel the thinking of Dr. William McNeill concerning the spread of civilization as brought forth in Chapter 6 of the text. Wheeler suggests that it is quite possible that the Indus River Valley civilization did not have a slow, patient growth. While emphasizing its cultural independence, Wheeler points up the probable debt that the members of this civilization owed to Sumerian and Egyptian forerunners for the *idea* of civilization itself. The Indus River Valley people, then, "were fortified by the consciousness that it had been done before." Thus, he suggests that perhaps their problems and solutions were of an immediate nature. If so, the missing links—when and if ever discovered—may be tenuous at best. There may have been an extremely brief transition period from primitiveness to civilization.

Urban planning is unmistakably evident in both twin cities, and the parallels in development are striking. In each city there is a high citadel overlooking the granaries. In Mohenjo-Daro, a Great Bath, a series of cells and smaller baths, and two pillared halls are also located in the citadel. While archaeologists must excavate more extensively and piece together other bits of information, one thing seems fairly certain. The citadal was used for religious as well as secular purposes. Even in modern India, ritual bathing remains an important factor in religious life. It seems evident from the remains of the cells and baths that the citadel might have been a kind of priestly college. Further, the assembly halls and state granary would indicate governmental uses of the citadel. A combined rule by priests and kings may be inferred, especially when considered with other evidence of centrally controlled planning.

Evidence of controlled planning is, in fact, inescapable. "Grim and conservative" are adjectives frequently used to describe the material aspects of the civilization. Uniform throughout the region were such items as pottery vessels in a variety of utilitarian sizes and shapes, baked bricks of standard dimensions, and stamp seals engraved with similar scenes and an identical script. Function seems to have been more important than aesthetics. Stuart Piggott, another authority on the subject, tells us: "Complex technological processes were known, well understood, and admirably organized for production, but the output suffered from standardization and an almost puritanical utilitarianism."

The end of the civilization is, like its beginning, clothed in mystery. Using the Rig-Veda as a source book, scholars have speculated that Aryan invaders swept down from the hills and burned and pillaged their way across the Indus Valley. Certainly there is ample evidence in Mohenjo-Daro that its citizens met a violent end. The Rig-Veda also hints that religious beliefs and practices of Aryan and Indus River Valley priests were mutually abhorrent. Thus the Aryans may well have added religious fervor to their spirit of conquest. The complete collapse of the Indus River Valley civilization, then, may well be accounted for by the annihilation of its priestly rulers. With the loss of its rulers, the civilization lost its driving force. Wheeler points out that the cities were also dying from within, all signs pointing toward decadence in workmanship and general economic decline. And one last factor was the general deterioration of the land. Denuded of trees, which were used for fuel, and gradually oversalted because of irrigation, the land became increasingly infertile.

CIVILIZATION IN RAIN-WATERED LANDS

A major change occurred when civilization appeared in areas like Iran and the shores and islands of the eastern Mediterranean. Hitherto civilization had been associated entirely with irrigation and the political, social, and economic organization entailed by irrigation. Now the process of cause and effect was reversed.

The Bronze Age invasions originated among the barbarians who gathered along the northern outposts of civilization—from the Balkans and Caucasus to the Iranian Plateau. Their special importance may be summed up as follows:

1. They signalized a major change in the technology of war: bronze weapons, light war chariots, and the shower of arrows fired during the attacks were overwhelmingly effective.
2. They shattered existing civilizations in Mesopotamia and the Indus River Valley.
3. The barbarians' victories and their subsequent imitation of civilization helped spread civilization beyond the river valleys to rain-watered lands.

The military and political power of the charioteers was concentrated in the hands of a military aristocracy. This arrangement was due in large part to the economic fact that chariots, bronze weapons, and armor and horses were very expensive. Those who could afford them had decisive power in their hands. In the course of time the military aristocracy *imposed* the social organization of civilization upon conquered peoples in areas in which hitherto no surplus production had been attempted. In other words, the charioteer nobility, having conquered rain-watered areas, demanded tribute and rents from their subjects. A leisured class, the division of labor, and the emergence of small cities followed as a result. Civilization was expanding by imitation, enforced by the sword.

MILITARY INNOVATIONS

Notice the terrible effectiveness of new weapons and new military tactics. Professor McNeill has compared the chariot army to a modern tank force in the period of World War II. The chariots, like the tanks, had superior mobility, firepower, and armor as compared to the clumsy infantry or carts of the older cultures.

The significance of such factors should never be forgotten in our study of history. Again and again we shall have to comment on the decisive importance of military techniques in the ebb and flow of civilization. Chariots defeated the earlier civilizations; light cavalry later defeated the charioteers; the Greek phalanx overpowered light cavalry; the Roman legion improved on the phalanx; later still the heavy armored cavalry of the early Middle Ages was decisive in battle, to be upset in turn by the invention of gunpowder. We shall see the cavalry hordes of the Mongols sweeping through Asia. Then the new, cannon-armed, heavy ships of Western Europe came to dominate the oceans and seas of the whole world. In more recent times the world has seen such drastic changes in war techniques as the mass conscript armies introduced by the French Revolution, the devastating effect of the flat trajectory of rifles and machine guns, the response in the form of the tank and mobile "blitzkrieg" tactics, and so to the nuclear missiles of our time. To neglect the factor of military techniques in studying history is to commit a dangerous fallacy. In the past, school history texts have only too often been guilty of this error.

LATER PHASES: IRON WEAPONS AND CAVALRY

A further technological change unsettled the balance of the Middle East once again some time after c. 1200 B.C.. This was the discovery of the use of iron.

Iron weapons were cheaper than those of bronze. Invaders armed with the new metal overthrew the Bronze Age cultures. States founded by iron users tended to be less "aristocratic" than those of the Bronze Age charioteers, since their military power was based on large armies of peasants. Such states were also less stable politically than the older empires. This explains, in part, the rise of city-states in the eastern Mediterranean.

Finally, we may note the rise in central Asia of cavalry, somewhere about the eighth century B.C.. The steppe nomads thus became a threat to civilization. They made numerous raids and invasions, and by the sixth century, a new empire once more united the Middle East under Cyrus the Persian.

SUGGESTIONS FOR TEACHING

The idea of the spread of civilization, introduced in Chapter 6, is emphasized in Chapter 7. Of special interest is the effect of warfare on the development of civilization in rain-watered lands. Students should consider the military advantages barbarians enjoyed over civilized peoples and how barbarians both threatened and helped to spread civilization. Help students understand the ways in which barbarians improved upon the rather clumsy, four-wheeled, donkey-drawn cart of the Sumerians, and the devastating effects of chariot warfare, then cavalry, upon the centers of civilization.

It is suggested that the students work in groups to study the cultures of Egypt and the Indus River Valley rather than spend a great deal of class time on these topics. Use the chart "Questions To Ask About a Culture" (introduced in Chapter 3) to guide the research and subsequent discussions.

Chapter 7 offers many opportunities to reinforce skills and understandings presented in earlier chapters: the use of latitude and longitude in locating places on maps and globes; the interplay of man and his natural environment; cultural changes in the natural environment; prerequisites for civilization; the use of time lines and appropriate terminology in referring to time lines; archaeological methods and discoveries.

INTRODUCTORY INQUIRY ACTIVITY

? Display pictures or models of items representative of the civilization of ancient Egypt: e.g., pyramids, sphinx, mummy, queens, Pharaohs, examples of hieroglyphics and Egyptian paintings. After students have commented on the items in the display, ask, "What do these things tell you about the culture of the Egyptians? What questions should we ask to learn about the culture of the Egyptians?" Students should recall the chart "Questions To Ask About a Culture." Divide the class into groups for the investigation of the Egyptian civilization. Groups should plan to present illustrated reports to the class when they have completed their research. The same procedure may be used to investigate the Indus Valley civilization.

NOTES ON QUESTIONS

Page 119: ● Although the three civilizations are thought to have developed independently, the *idea* of civilization as developed in Sumer had an impact on other river valley civilizations. People in Egypt and India could have learned about Sumerian civilization through trade, travel, and warfare.

?

● By the definition of civilization developed in Chapter 1, both the Egyptians and the Indus River people had to have a surplus of food, a complex division of labor, and cities. The first prerequisite, a surplus (in these cases, a surplus of food), was made possible through the development of agriculture in the river valleys.

Page 121: ★ Egypt is called the United Arab Republic.

Page 123: ● A physical features map should be used to supplement the map in the text.

? Egypt's natural defenses in the east and west were deserts; in the north, the Mediterranean Sea; in the south, the cataracts of the Nile River.

? Barbarians who wished to attack Egypt would have to figure out some way of gaining control of the Nile River. The most propitious time to do this would be when Pharaonic control was weakened by internal pressures; then the Egyptians would probably be unable to muster an effective defensive force. For example, the Hyksos (barbarians who conquered Egypt c. 1730 B.C.) gained control of Egypt at a time when the rule of the pharaohs was disintegrating. They conquered the northern portions of the country and established their kingdom in the delta. They dominated Egypt by entering into an alliance with the south, thus gaining control of the Nile.

? An army invading Egypt would have to approach it by sea or across the desert. In either case, the invading forces would be visible for a great distance—there could be no surprise attack. The Hyksos came overland in sufficient force to overwhelm a fragmented kingdom. They also had the advantage of new weapons from Asia. The Egyptians (during this period) were relatively unschooled in the arts of warfare.

● The Nile River made for easy travel between various places in Egypt. This ease of travel facilitated communication, and thus unification. Ease of travel and communication would also help a ruler to control his subjects. See *Background Information* for more details.

● Delta.

Page 132: ● Sumerian civilization in Mesopotamia was followed by the Akkadian and then the Babylonian civilization. These civilizations in turn gave way to other civilizations.

? ● The major reason that archaeologists know more about the Sumerians and Egyptians than about the Indus Valley people is that they can read their writing. Thus they have more than just material remains and artifacts to help them piece together the past.

Writing on seals and tablets found in the Indus Valley would probably reveal the same kinds of things revealed by written records in Sumer and Egypt. The writings might tell what the people believed and how they were governed.

Page 133: ? ● Obviously it is easier to grow food on rain-watered land in the first instance. Once irrigation canals have been made, however, irrigated land is easier to use, because the farmer is no longer dependent on the weather.

? ● Irrigation is a complex, demanding process that requires team effort and coordination to produce food. Thus many men would have to work together to produce a surplus.

? ● Irrigated agriculture would make it likely that a small group would seize control, since irrigation calls for planning and direction from above.

? ● The small group controlling the surplus could use it to allow certain men freedom from peasants' work and freedom to experiment and learn how to do other tasks. These experiments would speed up the development of technology and trade.

Page 135: ? ● Noncivilized farmers did not have to produce or hand over an agricultural surplus. Their lives were probably freer than the agricultural workers or slaves in a civilized society. They often held property in common. There were no wide class divisions or inequalities among them. On the other hand, because they had little or no surplus, they were subject to famine and starvation. They were at the mercy of raids and attacks by other tribes. They had little opportunity to find new ways of doing things, or to invent new tools, or to develop knowledge (writing, mathematics, astronomy, and so forth).

Page 137: ● ? This might be an excellent place to have the students see how many simple sentences they can make that illustrate how barbarians copied ideas and ways of civilization. For example: Barbarians borrowed the idea of a donkey-drawn cart. They made a horse-drawn chariot. Barbarians forced the people they conquered to produce for them. They made people produce a surplus. They kept cities and built more cities. The barbarians improved weapons of civilized peoples.

Page 139: ► Earlier barbarians had borrowed the idea of a donkey-drawn cart, and invented a horse-drawn chariot.

cap. The weapons carried by the archer and his squire would indicate that the Assyrians were skilled in metalworking. Students should notice the shield and swords.

ACTIVITIES

? On a map of the world, mark the following areas: Crete, Asia Minor, north China on the Yellow River (see map, *Civilization Spreads to Rain-Watered Lands* on page 134 in the text). Explain that these lands are called rain-watered lands. Ask, "Why are these areas called rain-watered lands? How are they different from the lands along the Nile, the Indus, and the Tigris and Euphrates rivers?" Explain that *all* lands are watered by rain, however, the term *rain-watered* is used to refer to areas that depend on rain for agriculture rather than on control of floods and extensive irrigation for a year-round supply of water.

On a map of the world, have students indicate the earliest river valley civilizations (Sumer, Egypt, Indus Valley). Ask, "Why did civilizations start first in these river valleys? Why was civilization later in coming to rain-watered lands? How did people in rain-watered lands produce a surplus? How did civilization spread from the river valleys to rain-watered lands? In what ways were these civilizations alike? How were the civilizations of Egypt and the Indus Valley different from that of Sumer? Were people in these civilizations in contact with one another? Which was conquered more easily by an invading army? Why? Which civilization lasted longest? Why?"

Use an historical map of the ancient world for the following exercises:

Locate Sumer, Akkad, Egypt, Mohenjo-Daro, Harappa; Crete, Asia Minor, north China; Tigris and Euphrates rivers, Nile River, Indus River, Yellow River; Mesopotamia, Middle East, Indian Subcontinent; Black Sea, Mediterranean Sea, Red Sea, Persian Gulf, Arabian Sea.

? Indicate river valley civilizations and early civilizations in rain-watered lands. Describe the physical environment of each.

Show where the following people lived: Sumerians, Akkadians, Egyptians, Minoans, Hittites, Babylonians, Assyrians, Persians.

Indicate the extent of the following empires: Egyptian, Assyrian, Persian.

? Show how civilization spread from river valleys to rain-watered lands. Name the centers of civilization in the world by 500 B.C.

? Topics for discussion:

Things learned about barbarians. (How did barbarians gain control over centers of civilization? Why did they wish to do so? How did the barbarians borrow from the civilized people? What did they borrow? How did they improve what they borrowed? How did they become civilized?)

The growth of empires. (What is an empire? How were early empires formed? How did rulers control their empires? What great empires were formed in the Middle East in ancient times? What became of these empires? Why?)

The spread of civilization. (How did trade and travel spread civilization? Warfare? How did the growth of empires help civilization to spread? In what ways were all early civilizations the same? In what ways were they different? Why did some civilizations grow weaker and even disappear? Did the *idea* of civilization disappear? Why or why not?)

Civilization in rain-watered lands. (How did rulers gain control of the farmers' surplus food? What did rulers do with the surplus? Who did most of the work in rain-watered civilizations? Why? Who received most of the benefits? Why?)

The effects of warfare on civilization. (What effect did chariots, iron weapons, and mounted warriors have on the spread of civilization? On changing cultures?)

Art and construction:

? A chart, mural, or bulletin-board display showing major types of change that affect civilized societies.

? A chart or a series of drawings showing changes in warfare from Sumer to the Persian Empire. Include sketches of early infantry, charioteers and archers, iron-weaponed infantry, steppe horsemen.

Clay models of items representative of various Mesopotamian cultures.

A tabletop model of ancient Egypt showing physical and some cultural features.

CONCLUSION

The Ebb and Flow of Civilization

Text pages 143-147

Civilization spread from river valleys to rain-watered lands. Meanwhile the foci of civilization became subject to a process of ebb and flow, in which one civilized culture was overthrown and replaced by another. Despite untold human suffering, men in the early civilized societies were creating a better way of life than the world had ever known.

	CONCEPTS	OBJECTIVES Questions to be developed*
	The ebb and flow of civilization	How has the process of civilization been one of constant change—growth, decline, diffusion? What changes are brought about by civilization?
	The impact of ideas on culture and history	How is civilization affected by ideas about religion and the meaning of life? By ideas about political and social classes? By ideas about right and wrong? What happens to the cultures of conquered peoples? What changes take place in the cultures of the conquerors?

Behavioral Indications: _*Discussion of these questions and problems will show whether students understand the concepts and can apply them to the material presented in this chapter. The questions may also be used for review and evaluation._

BACKGROUND INFORMATION

See pages 111-121 for *Resources.*

THE EBB AND FLOW OF CIVILIZATION

A central problem of history is the fluctuation of civilization. Civilization did not grow in a straight line from Mesopotamia to the advanced civilization of the United States today. It waxed and waned; it made gains and suffered losses. The one factor that remained constant was continual change.

What are some of the causes of this changing tide? Cultures have faced change and even destruction through invasion and conquest by outside forces. Cultures have also faced change and major upheaval from within. Not all members of a society necessarily share in its civilization. In the past, many peasants and slaves did not participate in the civilization developed in their countries. Even today in many parts of the world whole groups of people are excluded from civilization. In our own not far distant past, slaves did not participate in the main life of American society. Today, both at home and abroad, certain groups are "outsiders," marginal participants in their own civilization. How can an advanced society ensure full participation by all its members?

A civilized society, in short, faces a double pressure. There is the pressure from within, from the underprivileged groups who become conscious that they have no real share in civilized living. And there is the pressure from without, from underdeveloped societies ("barbarians") who envy and resent the higher standard of living and education they can observe in the neighboring civilized society. When these pressures coincide with a period of weakness or softness in the civilized society, a phase of collapse, conquest, and confusion is likely to occur, followed in the course of time by the rise of a new phase of civilization dominated by a different cultural tradition.

This oversimple version of the story should be corrected by consideration of certain other factors, not all of which are present in all the critical phases of civilization. The economic techniques of civilization may in the long run weaken a society by producing overpopulation or dysgenic patterns of reproduction (i.e., the reproduction of the weaker genetic strains in larger numbers than the stronger). Urban living or irrigation may encourage disease. Techniques of agriculture and mining may lead to the stripping of hillsides, the removal of trees near river banks, and the abandonment of fields when soils are exhausted. Methods of irrigation may cause salt deposits on farming lands, eventually rendering these lands useless for growing crops. These practices have broken down nature's barriers against floods; they have caused soil erosion on valuable land and have left hillsides so eroded that new growths of grasses and trees are impossible. Nature's gifts are not inexhaustible. The question of how man is using the earth's resources looms larger than ever today.

Meanwhile, the imitation of the techniques of civilization may produce overpopulation in neighboring underdeveloped societies. This in turn creates added pressures upon the frontiers of civilization. Today, for example, 60 per cent of the earth's 3 billion people live on 5 per cent of its land. Two-thirds of all people live in the so-called "underdeveloped areas" of the world: Asia, Africa, and Latin America. The people of these areas have been unable to accomplish the modern industrial and agricultural miracles achieved by the Western nations. They lack either the fertile land and the rich mineral resources, or they lack the means of exploiting their natural assets. Here, where birth rates and death rates are the highest, hunger is an ever-present companion. Although engaged primarily in agriculture, the people of these regions are without the adequate soils, fuel, machinery, capital, and technical knowledge needed to produce more than the barest subsistence diet. The slightest decline in the food supply causes famine. How will these mounting pressures of poverty and population be resolved?

There is one further factor to be mentioned in considering this question of the ebb and flow of civilization. It is the factor of governmental-political structure. We need not attempt to decide this point, but we should note that an advanced, democratic form of government may encourage irrational political decisions. These may take the form of "appeasement" or "Danegeld" on the one hand, or "hubris" and overstraining of power and resources on the other. Either political extreme may prove disastrous for a society at the apogee of power and economic success. What would be a conventional, passing defeat for a poor society, or for a society in the early stage of civilization, may be decisively disastrous for a highly complex society.

Whatever be the truth about this matter, there can be no question that the fluctuating course of the history of civilization remains a central crux of social science. Certainly the history of the Middle East from c. 3500 B.C. until the Roman Empire offers a grim commentary upon the theme of the rise and fall of civilization as we read about the successive cultures and empires: Sumer, Akkad, Babylon, Assyria, Chaldea, Persia, with many complicating details like the wars between Persia and Greece, the role of Egypt, and the flashing conquests of Alexander, which left a litter of unstable kingdoms. One must not, however, exaggerate the importance of these switches in political predominance. Doubtless these changes involved incalculable human suffering for individuals, but the torch of civilization passed on from culture to culture.

The theme of the ebb and flow of civilization is one of the most commonly discussed in history. There are many hypotheses on the topic, and we need not accept any particular explanation. For a brief summary of various points of view the teacher may care to consult Michael Grant, *Ancient History* (New York: Harper Torchbooks, 1965), pp. 11-14. What is indisputable is the historic fact of the vicissitudes of civilization, cultures, empires, and advanced societies.

Our title, *The Human Adventure*, is a comment on the experiments, triumphs, and failures in man's search for security and improvement through civilization.

SUGGESTIONS FOR TEACHING

Discussion of the problems and questions posed in the Conclusion offers an opportunity to review important skills and social science concepts introduced in the text. Skills and concepts include: understanding and use of time lines and lines of longitude and latitude; rotation and revolution of the earth and the relation of earth science to time; the work of archaeologists and historians and the relevance to our own times of a study of ancient civilizations; the cultures of some ancient civilizations; the meaning of civilization, of culture; the prerequisites of civilization; how civilizations rise and fall; the process of acculturation; the effects of various physical environments on civilization; the effects of warfare, including barbarian invasions, on civilization; how civilization spreads.

The teacher may wish to divide the class into groups to consider the questions in the Conclusion. In presenting its data to the class, each group should use relevant materials prepared during the study of earlier chapters—charts, diagrams, models, pictures, maps, etc. Students' reports might constitute a culminating activity for *Ancient Civilization*.

INTRODUCTORY INQUIRY ACTIVITY

? Show pictures that illustrate the ebb and flow of the ocean's tides. (Pictures of coastal areas showing tide markers, or of Mont St. Michel's causeway at high and low tides are suggested.) After students have commented on what is happening in each picture, ask, "What are ocean tides? What is an ebb tide? A flood tide? What is meant by the phrase 'ebb and flow' when one is describing ocean tides? What do you think is meant by the 'ebb and flow' of civilization? What things might cause civilization to ebb? To flow? Might something cause civilization to disappear? Do you think that the *idea* of civilization could disappear? Explain."

NOTES ON QUESTIONS

Page 144: ► As students examine the time line, guide them in recognizing the rise of civilizations in river valleys, the spread of civilization to rain-watered lands, and the cycles of barbarian invasions.

► Students should be able to give the three prerequisites for *civilization*: accumulation of a surplus, extensive division of labor, and the building of cities.

Barbarians are those who live on the fringes of civilization and who want to share in its rewards, often taking them by force.

If a society has cities, it should be judged civilized.

? ● *Surplus production* is the first major step toward civilization; it makes possible the accumulation of *savings* or *capital*; it frees many farmers for other forms of work. In time, people begin to specialize in various occupational areas, which results in *division of labor*, the second major step toward civilization. Extensive division of labor, or *specialization*, is possible only with a high degree of organization: *managers* are needed to plan, to invest capital, to procure raw materials, to organize production; *workers* are needed to produce goods and provide services. Specialization makes individuals and communities interdependent; they therefore have to exchange goods and services (that is, engage in *trade*). Workshops, storehouses, residences, and markets are built. In time, as small communities grow into cities and as trade increases, the need for a convenient medium of exchange arises. The most convenient medium of exchange is *money*, the use of which stimulates trade and the growth of civilization.

? ● The organization necessary to assure the production of an agricultural surplus and an extensive division of labor results inevitably in the division of a society into different groups. Students may consider, for example, the classes in Sumerian society: capital and management (priest-kings and their helpers—the privileged classes); labor (farm workers, herders, and slaves—the lowest classes); and a kind of middle class composed of soldiers, merchants, and craftsmen.

These groups, or classes, were not equal in wealth, work, or power. The privileged classes were the most powerful and controlled the most wealth. The lowest classes were the most numerous, the poorest, and the least powerful; their work was the most physically strenuous and the least skilled.

- Yes to both questions. When we look at the civilization of Sumer, for example, we must conclude that men had learned how to produce an agricultural surplus, how to divide the work and specialize, how to build cities. As civilization grew, the *idea* of civilization spread through trade, travel, and warfare; it became a channel for knowledge of other cultures. The exchange of knowledge (e.g., writing), of ideas, skills, materials—all led, generally, to a better standard of living for more people.

Page 146: ?

- *Rulers* are those who control the government (priest-kings, military kings in ancient societies, or the majority of the voters in a modern democracy). The head of state is not necessarily the "ruler": we would not call the President of the United States a "ruler."

  Officials in government are those who carry out the many functions of government under the direction of the ruler(s). These officials include temple assistants, clerks, tax collectors, judges, policemen, military officers. In a modern democracy the leaders of the government are merely high-ranking officials.

  Laws are the rules laid down and enforced by governments and rulers.

  Taxes are levied to pay the expense of government—to pay officials, support *armies*, wage *wars*, support government programs or projects. Governments have also exercised the authority to raise armies for the defense of the state, and in some cases, for the purpose of conquest. Military rulers have used war as a policy of the state, often enlarging their spheres of authority to include other city-states or kingdoms in political organizations called *empires*.

  Civilization affects government as follows. When Sumerian cities developed into city-states they needed complex laws, high taxes, and many officials. The cities also became rivals for economic, territorial, and political power. As military force became more important, military kings replaced the priest-kings. A warrior aristocracy rivaled and eventually replaced the religious leaders as the ruling class. Students may be able to cite other examples.

?

- Yes; civilization in river valleys was possible only when men were organized in teams of sufficient number to effectively irrigate and cultivate the land. They learned to control floodwater and to produce a surplus.

  ?

  Civilization often brings harm to the natural environment. The Sumerians in the long run damaged the soil with their method of irrigation; in the nineteenth century, homesteaders in the American Midwest wasted the land with unwise farming methods, which turned the region into a dust bowl. In our own times, we see the effects of air and water pollution on the ecological balance (e.g., killing of certain species of animal and plant life with pesticides, herbicides, and other chemicals; reduction of a major source of oxygen by the destruction of trees and ground cover for the construction of freeways, housing developments, etc.); land erosion (resulting from strip mining, deforestation); not to mention the technological expertise that has produced weapons that could destroy civilization itself.

?

- Students should be able to offer a number of reasons for the ebb of civilization: internal pressures—disputes over boundaries, economic advantage, and political or religious power; geographic change adversely affecting agriculture. External pressures—barbarian invasions.

? ● A new way of war may give power to a new group, especially if the old group does not adopt the new way quickly; thus the barbarians' invention of chariots enabled them to defeat early civilizations. The conquerors destroyed civilizations, but preserved elements of the conquered cultures by blending them with their own. Barbarian kings often became empire builders, enlarging their domains by using their military superiority to annex other civilizations. Thus, further acculturations would take place.

? ● A *culture* is the whole way of life of a people. All of the questions are important, but perhaps the most useful ones in distinguishing differences between cultures are those concerning religion and philosophy, knowledge, education, and the arts. Questions concerning geography, economics, and history would probably be of greatest help in determining whether a culture was civilized.

CULMINATING ACTIVITY

Guide students in the preparation of a time line showing major empires and cultures from 3500 B.C. (See the Time Line for the Ebb and Flow of Civilization.) Students should use the time line and a map of the ancient world to explain the rise and fall of various civilizations, and the continued growth and expansion of the *idea* of civilization.

REVIEW

1. What movements of the earth are related to time? How?
   How is time measured? What starting point do we use to measure time in history?
   How is a time line helpful in studying about civilizations of the past? About the ebb and flow of civilization?
   Use the time lines prepared in class to show: decade, century, millennium, 3000 B.C., A.D. 2000, sixth century B.C., twentieth century A.D., the rise of civilization in Sumer, the decline of civilization in Sumer.

2. How do we locate ourselves in space?
   On a globe and on a world map locate the region where early civilizations developed.
   What ancient civilizations developed in the following areas: between the Tigris and Euphrates rivers? Along the Nile River? Along the Indus River?
   What features characterized the natural environment of Sumer? Of Egypt? Of Mohenjo-Daro?
   How did men adapt and adapt to these natural environments?

3. How was man able to change from a food-gatherer and hunter to a builder of cities?
   What is meant by civilization?
   How are the following related to civilization: control of the natural environment? Division of labor? The building of cities?
   Why do scholars believe that civilization developed earlier in river valleys than in rain-watered lands?

4. What is meant by culture?
   What questions can we ask to learn about the culture of a society?
   How did Sumerian religious beliefs influence every aspect of Sumerian culture?

5. What is meant by "barbarians"?
   What effects did barbarian invasions have on civilization?
   What happened to the culture of conquered peoples? To the culture of the conquerors?
   What are some of the causes of the decline of a culture?
   How did the following inventions and ideas affect civilization: horse-drawn carts? Chariots? Iron weapons? The idea of mounted soldiers?
   How was civilization spread by peaceful means? By nonpeaceful means?
   What is meant by "the ebb and flow of civilization"?

6. How do archaeologists and historians learn about civilizations of the past? What kind of evidence does an archaeologist look for? What does an historian study?
   What did historians learn about Sumer from studying cylinder seals, laws, and stories? From studying pictures and designs on clay tablets?
   What did archaeologists learn about Sumer from study of the tels? Of graves?
   How does the work of historians help archaeologists? How does the work of archaeologists help historians?
   Would an archaeologist be likely to find a coin dated 500 B.C.? Why or why not?
   What would the following artifacts, ruins, and records tell you about the culture of a society: mud bricks; clay pots; clay tablets with writing on them; pictures of donkey-drawn carts, weapons, tools, priest-kings, soldiers, merchants, farmers, slaves; statues of gods; ruins of a ziggurat; bars of silver marked to show a certain value; golden dishes and jewelry; a restored harp?

RESOURCES

GENERAL

Teacher Books

Bibby, Geoffrey. *Four Thousand Years Ago*. New York: Alfred A. Knopf, 1961. An overview of life in the second millennium B.C. Includes all the nations and kingdoms mentioned in this chapter.

Brion, Marcel. *The World of Archaeology*. Vol. II. New York: Macmillan, 1962. Archaeological finds in Central Asia, Africa, and the Middle East. (Volume I covers archaeological finds in India, China, and America.)

Ceram, C. W. *Gods, Graves, and Scholars*. New York: Alfred A. Knopf, 1962. A popularized, romantic rendering of archaeological discoveries in Greece, Egypt, Mesopotamia, Mesoamerica.

Cottrell, Leonard. *The Anvil of Civilization*. London: Faber & Faber, 1958. Survey of the birth and growth of civilization in the Middle East. Although Cottrell credits the Egyptians with "firsts" that should go to the Sumerians (as he notes in later books), his writing is colorful, entertaining, and vivid.

Herodotus. *The Histories*. Baltimore, Maryland: Penguin Books, 1954. Book One contains many descriptions of the Egyptians and Persians.

Horizon, Editors of. *Lost Worlds*. Garden City, New York: Doubleday, 1962. Excellent photographs and text cover much of the material included in Chapters 5 and 6.

Life, Editors of. *The Epic of Man*. New York: Time, Inc., 1961. Beautifully illustrated volume. Covers early man and the rise of civilization in Sumer, Egypt, Indus Valley, Aegean area, China, Latin America. Can also be used with Chapters 4 and 5.

McNeill, William H. *The Rise of the West.* Chicago: University of Chicago Press, 1963. McNeill covers all of the material treated in the fifth-grade course. For information relevant to this chapter, see Chapters 3 and 4.

Thomas, D. Winton (ed.). *Documents from Old Testament Times.* New York: Harper & Row, Harper Torchbooks, 1961. Historical documents of Babylon (Hammurabi's code), Assyria, and Egypt, among others.

Pupil Books

Note: These books deal with early civilization in general. Because of their encyclopedic treatment and lavish illustrations, they will be useful for general classroom reference. In some cases, however, the text is adult.

Barnett, Lincoln, and Editors of *Life*. *The Epic of Man.* New York: Golden Press, 1962. Survey of early man, with detailed studies of the ancient civilizations covered in this unit. Many color illustrations.

Bowman, John. *The Universal History of the World.* New York: Golden Press, 1966. Survey of the ancient world, from prehistoric man through the Chou Dynasty (220 A.D.). Lavishly illustrated in color. Good chapters on Sumer, Egypt, Indus Valley.

Burrell, Roy E. C. *The Early Days of Man.* New York: McGraw-Hill, 1968. Covers many archaeological discoveries of the last half century. Chapters on Sumer, Egypt, Indus Valley.

Chenery, Janet. *The Golden Book of Lost Worlds.* New York: Golden Press, 1963. Filled with photographs of artifacts of the ancient world. Covers discovery of Sumer, Egypt, Indus Valley.

Fisher, James. *The Wonderful World: The Adventure of the Earth We Live On.* Garden City, New York: Doubleday, 1954. The world of man from earliest times into the space age. Picture-book size; many illustrations, maps, diagrams in color.

Glubok, Shirley. *The Art of Lands in the Bible.* New York: Atheneum, 1963. A beautiful picture book of ancient art, described in terms children can understand.

National Geographic Magazine, Editors of. *Everyday Life in Ancient Times.* Washington, D.C.: National Geographic Society, 1964. Highlights of the civilizations that developed in Mesopotamia, Egypt, Greece, and Rome. Richly illustrated. However, text is on adult level.

Weisgard, Leonard. *The Beginnings of Cities.* New York: Coward-McCann, 1968. A handsome picture book tracing growth of cities through archaeological finds of artifacts, tools, art, etc. Treats development of trade, art, writing, and government.

Winer, Bart K. *Life in the Ancient World.* New York: Random House, 1961. Full of pictures and fascinating information on many ancient civilizations. Good description of life in Sumer.

Note: It is suggested that the teacher preview filmstrips and films to determine their value for use with her class.

Filmstrips

EBE "Ancient Times" Series. Five Filmstrips; five records:
The March of Empires
Mesopotamia, Cradle of Civilization
Egypt, Land of the Pharaohs
Jerusalem, Heart of the Holy Land
Adventuring into the Buried Past

EBE "Basic Economics" Series. Eight filmstrips trace the development of an economic system on Enterprise Island, an imaginary community that gradually introduces money, taxation, banking, borrowing, and lending into its society.

IMP "Exploring Ancient Civilizations" Series.
Exploring Rome and Pompeii
Exploring Ancient Athens
Exploring Ba'albek and Jerash
Exploring Ancient Egypt
Exploring Ancient Mexico: Pre-Aztec
Exploring Ancient Mexico: The Maya

SOC "The Ancient World" Series.
Life in Ancient Greece
Life in Ancient Mesopotamia
Life in Ancient Palestine
The Growth of Rome
Life in the Roman Empire
The Evolution of Empire (Fertile Crescent)
The World of the New Testament

Miscellaneous

SOC *Histomap of World History.* Colorful chart outlines the rise and fall of peoples and nations over 4,000 years. Opens 12″ × 65″.

TIME AND CHRONOLOGY

Teacher Books

Harrison, Lucia C. *Sun, Earth, Time and Man.* Chicago: Rand McNally, 1960. Good treatment of man's dependence on the regularity of the earth's motions.

Hood, Peter. *How Time Is Measured.* (2d ed.). London: Oxford University Press, 1969. Small, well-illustrated text on the various kinds of timetelling devices.

Irwin, Keith. *The 365 Days: The Story of Our Calendar.* New York: Thomas Y. Crowell, 1963. Excellent treatment of timetelling, calendar development, carbon dating.

Priestley, J. B. *Man and Time.* Garden City, New York: Doubleday, 1964. Well-illustrated study of ideas about and technology of measuring time.

Also refer to encyclopedia articles on time, time measurement, calendars, chronology, the earth.

Pupil Books

Adler, Irving. *Time in Your Life.* New York: The John Day Co., 1955. How we live in time; the clock we never wind—the earth; the calendar, sundial, and other man-made clocks; rhythm in time with illustrations from many living things; rhythm in the atom and in space. Diagrams; drawings.

Adler, Irving and Ruth. *The Calendar.* New York: The John Day Co., 1967. Good basic explanation of time patterns, from early man's recognition of seasons through development of calendar. Discusses Egyptian, Babylonian, Roman, Julian, Gregorian calendars (Stonehenge, too). Pictures and diagrams.

Asimov, Isaac. *The Clock We Live On.* New York: Abelard-Schuman, 1965. The how and why of timetelling; what the moon and stars had to do with its evolution.

Bendick, Jeanne. *The First Book of Time.* New York: Franklin Watts, 1963. History and importance of timekeeping from prehistory to the present. Short, simply written, packed with drawings and diagrams.

Bradley, Duane. *Time for You: How Man Measures Time.* Philadelphia: J. B. Lippincott, 1960. From "shadow stick" and sundial to modern atomic clocks; development of time-measurers, both calendar and clock. Diagrams; drawings.

Brindze, Ruth. *The Story of Our Calendar.* New York: Vanguard Press, 1949. Brief, interesting account of how our calendar came to be; how it got its name; why there are two calendars, Julian and Gregorian. Illustrations and useful diagrams.

Buehr, Walter. *Keeping Time.* New York: G. P. Putnam's Sons, 1960. The calendar; time at sea; development of clocks; history of watches from sixteenth century to present. Interesting illustrations.

Burlingham, Roger. *Dictator Clock.* New York: Macmillan, 1966. Explains why man, after living a long time without clocks, was finally forced to recognize "time" as a dictator. How "timetellers" developed and the wonderful things they have encouraged man to attempt.

Chester, Michael. *Relativity: An Introduction for Young Readers.* New York: W. W. Norton, 1967. Specialized text on relativity. First part explains Einstein's theory and other important findings; second half is mathematical exercises.

Clark, Mary Lou. *You and Relativity.* Chicago: Childrens Press, 1965. Rather difficult text based on "thought experiment" to explain such concepts as relativity, centrifugal force, gravity, Einstein's theory. Many illustrations.

Johnson, Timothy. *River of Time.* New York: Coward-McCann, 1968. History and development of calendars and clocks. Photographs and drawings.

Kondo, Herbert. *Adventures in Space and Time: The Story of Relativity.* New York: Holiday House, 1966. Clear explanation of time-space theories, from Ptolemy to Einstein.

McGinley, Phyllis. *Wonderful Time.* Philadelphia: J. B. Lippincott, 1966. Delightful book of light verse, charmingly illustrated. Poems about sundial, hourglass, rotation, Daylight Saving Time, etc. Teacher could read aloud to class.

Navarra, John G. *Clocks, Calendars and Carrousels: A Book About Time.* Garden City, New York: Doubleday, 1967. History of time measurement from earliest days to the present, from rough approximation to measurement by scientists and mathematicians. Fascinating maps and diagrams.

Neal, Harry E. *The Mystery of Time.* New York: Julian Messner, 1966. The story of time from the Egyptian clock of 5,000 years ago to a moon clock for the space age. Photographs.

Waller, Leslie. *Time.* New York: Henry Holt & Co., 1959. Easy-to-read account of man's interest in time through the ages.

Zarchy, Harry. *Wheel of Time.* New York: Thomas Y. Crowell, 1957. Time and motion; brief history of various calendars; how navigation and science are concerned with time. Useful but prosaic diagrams.

Films

EGH *Latitude* (8 mm film loop)
The Movement of the Earth Around the Sun: Unequal Length of Day and Night (8 mm film loop)

Miscellaneous

SOC *Introduction to Latitude and Longitude.* Transparencies to introduce vertical and horizontal grid lines and their relation to latitude and longitude.

Latitude and Longitude on the Globe. Transparencies to introduce prime meridian, equator, degrees as measurement units. Four overlays.

Maps and Globes. Transparencies explain equator, tropics, poles, longitude, latitude.

TMC *Latitude* and *Longitude.* Two teaching tapes that explain the use of latitude and longitude for describing a location on the earth.

PREHISTORY

Teacher Books

Childe, V. Gordon. *Man Makes Himself.* New York: Mentor Books, 1951. Well-written text on early man's development and progress toward civilization. Egypt and Mesopotamia are covered in detail.

Cressey, George B. *Crossroads.* New York: J. B. Lippincott, 1960. Physical and cultural geography of the Middle East. Well written; illustrated.

Montagu, Ashley. *Man: His First Million Years.* New York: Mentor Books, 1957. An anthropologist's attempt to view man in prehistory.

Sauer, Carl O. *Agricultural Origins and Dispersals.* New York: The American Geographical Society, 1952. A useful book on early agriculture.

Thomas, William L., Jr. (ed.). *Man's Role in Changing the Face of the Earth.* Chicago: University of Chicago Press, 1956. A mammoth general text and an anthology of papers on physical and cultural geography.

Pupil Books

Ames, Gerald, and Rose Wyler. *The First People in the World.* New York: Harper & Row, 1958. Easy-to-read account of animal life in prehistoric times, and life and achievements of early man. Imaginative illustrations.

Andrews, Roy C. *In the Days of the Dinosaurs.* New York: Random House, 1959. Easy-to-read account of fossils and dinosaurs. Imaginative illustrations.

Bailey, John. *Prehistoric Man.* New York: Hawthorn Books, 1968. Well-written account of man's prehistoric ancestry and the problems presented by scientists' discoveries of remains such as fossils, teeth, bones, and cave paintings.

Baldwin, Gordon C. *Stone Age Peoples Today.* New York: W. W. Norton, 1964. Interesting case studies of the Arunta of Australia, the Bushmen of South Africa, the Bambuti of the Congo, the Papuans of New Guinea, and many other primitive groups. Should fascinate the good reader.

______. *The World of Pre-History.* New York: G. P. Putnam's Sons, 1963. Archaeological discoveries of the first men, first tools, first farmers, and many other "firsts," up to first excavations on the moon.

Banmann, Hans. *The Caves of the Great Hunters.* New York: Pantheon Books, 1962. How four boys discover prehistoric treasures in the caves at Lascaux, France. Photographs, drawings, diagrams, maps.

Borer, Mary C. *Mankind in the Making.* New York: Frederick Warne & Co., 1962. History of man from his "beginnings" through the Ice Age, Old Stone, Middle Stone, and New Stone Ages.

Chandler, Maurice H. *Man, the Inventor.* Chicago: Rand McNally, 1960. The growth of civilization and culture from prehistoric times to the present. Included are chapters on the first tools, fire, the wheel, clocks, writing and printing, telescopes and microscopes. Illustrated.

Colbert, Edwin H. *Millions of Years Ago: Prehistoric Life in North America.* New York: Thomas Y. Crowell, 1958. Fishes, fossils, dinosaurs, mammals, and early man as hunter explained through the work of a paleontologist. Illustrations.

Darling, Lois and Louis. *Before and After Dinosaurs.* New York: William Morrow & Co., 1959. Easy-to-read account of dinosaurs. Dozens of delightful drawings.

Dickinson, Alice. *The First Book of Stone Age Man.* New York: Franklin Watts, 1962. Man's development through the ages of prehistory to the discovery of agriculture. Beautiful illustrations.

Fenton, Carroll L. *Prehistoric World: Stories of Animal Life in Past Ages.* New York: The John Day Co., 1954. Interesting description of fossils, from shells to mammals. Told in story form with black-and-white drawings.

Friedman, Estelle. *Man in the Making.* New York: G. P. Putnam's Sons, 1960. Fascinating history of man's evolution told through the findings of well-known anthropologists. Illustrations.

Greene, Carla. *After the Dinosaurs.* Indianapolis, Indiana: Bobbs-Merrill, 1968. Beasts and birds of about 70 million years ago. Illustrated.

Hansen, Hans-Ole. *I Built a Stone Age House.* New York: The John Day Co., 1964. A young Dane who became so interested in prehistory that he decided to build, with Stone Age tools, a Stone Age house—and did. Photographs; diagrams; list of materials needed.

Howell, F. C., and Editors of Time-Life Books. *Early Man.* New York: Time-Life Books, 1968. Elaborately illustrated story of man's day-to-day problems in the ancient past and the use he made of his tools.

Jacobson, Daniel. *The Story of Man.* New York: Home Library Press, 1963. Capsule information on man's origin, racial differentiations, and cultural development. Illustrations.

Kramer, Bettina L. *About Cave Men of the Old Stone Age.* Chicago: Childrens Press, 1965. From before 25,000 B.C., when all weapons were made of stone, to man's discovery of writing, the art of engraving, and the making of implements from bone. Realistic sketches.

Lynch, Patrick. *A Million Years of Man.* New York: St. Martin's Press, 1959. How life came to the earth and how its various forms developed. Illustrations.

Marcus, Rebecca B. *Prehistoric Cave Paintings.* New York: Franklin Watts, 1968. How a 12-year-old Spanish girl, exploring with her historian-archaeologist father, started an exciting treasure hunt for cave paintings. Photographs.

Martin, Christopher. *The Wonders of Prehistoric Man.* New York: G. P. Putnam's Sons, 1964. Story of man: as a lone hunter, a member of a hunting party, and, finally, a kind of farmer. Illustrations from the American Museum of Natural History.

Matthews, William H. *Wonders of the Dinosaur World.* New York: Dodd, Mead & Co., 1963. Dinosaurs: what they are, how we got to know about them, how they got their names. Photographs and drawings.

Mead, Margaret. *People and Places.* Cleveland: World Publishing, 1959. The development of man shown through the study of today's primitive people. An exciting introduction to anthropology. Illustrations.

Ostrom, John H. *The Strange World of Dinosaurs.* New York: G. P. Putnam's Sons, 1964. Children will enjoy the pictures; teachers might help with the text.

Pfeiffer, John E. *The Search for Early Man.* New York: Harper & Row, 1963. How four French boys, hunting for a lost dog, came upon cave paintings that revealed the history of early man. Illustrated with paintings, engravings, and sculpture from prehistoric times.

Powers, Richard M. *The Cave Dwellers in the Old Stone Age.* New York: Coward-McCann, 1963. Well-illustrated account of life in prehistoric times.

Robbin, Irving. *The How and Why Wonder Book of Basic Inventions.* New York: Grosset & Dunlap, 1965. Brief text and 48 well-illustrated pages about discoveries of our predecessors—the first tools, fire, agriculture, the wheel, printing, optics.

Scheele, William E. *The Cave Hunters.* Cleveland: World Publishing, 1959. Easy-to-read account of the life of early man as revealed to archaeologists. Illustrations.

Shepherd, Walter. *The Story of Man.* New York: Golden Press, 1967. Traces the descent of man in broad outlines. Illustrations.

Sibley, Gretchen. *La Brea Story.* Los Angeles: Ward Ritchie Press, 1968. A beautiful little book about the La Brea pits, near Los Angeles, famous as a trap for ancient animals which once lived in this valley. Illustrated.

Silverberg, Robert. *The Morning of Mankind: Prehistoric Man in Europe.* New York: New York Graphic Society Publishers, 1967. Europe's "men before history" from Stone Age toolmakers to achievers of the Bronze and early Iron Ages. Photographs and drawings.

Smith, Elmer Boyd. *So Long Ago.* Boston: Houghton Mifflin, 1944. Easy-to-read account of animal life in prehistoric times. Illustrations.

Vlahos, Olivia. *Human Beginnings.* New York: Viking Press, 1966. The sketches in this book should entice the reader to investigate the text, which traces man from his beginnings through various stages of civilization and different cultures.

Weisgard, Leonard. *The First Farmers: A Re-Creation Through Pictures and Text of Life in the New Stone Age.* New York: Coward-McCann, 1966. A beautiful book with pictures about the great revolution in the life of man when he ceased to be a wandering food-gatherer and learned to settle in one place, grow crops, and domesticate animals.

Whitaker, George O., and Joan Meyers. *Dinosaur Hunt.* New York: Harcourt, Brace, 1965. Dinosaur hunt in New Mexico by renowned paleontologist. Photographs and drawings.

ARCHAEOLOGY

Teacher Books

Braidwood, Robert J. *Prehistoric Men.* New York: William Morrow & Co., 1967. A thorough look at pre-history through archaeological finds.

Woolley, Leonard. *Digging Up the Past.* Baltimore, Maryland: Penguin Books, 1965. An interesting study of archaeology, its hows and whys.

Pupil Books

Baldwin, Gordon C. *Calendars to the Past.* New York: W. W. Norton, 1967. How archaeologists date objects (sun spots, tree rings, carbon dating, degree of magnetism). Interesting, though quite technical reading. Photographs.

______. *The Riddle of the Past.* New York: W. W. Norton, 1965. The work of the archaeologist; emphasis on professional technique, procedure, and reconstruction.

Cleator, P. E. *Exploring the World of Archaeology.* Chicago: Childrens Press, 1966. Shows what archaeologists have discovered in Mesopotamia, Egypt, Greece, and Mesoamerica. Adult text. Drawings.

Cohen, David. *Secrets from Ancient Graves.* New York: Dodd, Mead & Co., 1968. History of ancient civilizations through biographies of ten individuals. Covers Queen Shubad, Khufu, Vikings—also ancient China, East Anglia, Mexico.

Daugherty, Charles M. *The Great Archaeologists.* New York: Thomas Y. Crowell, 1962. Work of famous archaeologists in Egypt, Iraq, Indus Valley, Greece, and Mesoamerica. Line drawings.

Evans, Eva K. *The Adventure Book of Archaeology.* New York: Capitol Publishing Co., 1961. Emphasis on technique and discovery, with suggestions for simple experiments at end of each chapter.

Folsom, Franklin. *Science and the Secret of Man's Past.* Irvington-on-Hudson, New York: Harvey House, 1966. Biographies of important contributors to the study of man's prehistory.

Freeman, Mae Blacker. *Finding Out About the Past.* New York: Random House, 1967. Archaeological techniques: major discoveries (e.g., Egypt, Pompeii, Colorado cliff houses); explanation of how scientists can reconstruct cultures through study of artifacts. Photographs.

Friedman, Estelle. *Digging into Yesterday.* New York: G. P. Putnam's Sons, 1958. Easy-to-read account of the discovery of ancient civilizations. Interesting archaeological case histories. Line drawings.

Holden, Raymond. *Secrets in the Dust.* New York: Dodd, Mead & Co., 1959. The major excavations of Woolley and Schliemann, and Rawlinson's work in Iran.

Jessup, Ronald. *The Wonderful World of Archaeology.* Garden City, New York: Doubleday, 1968. Excellent illustrations accompany a comprehensive but difficult text. Illustrated glossary.

Palmer, Geoffrey, and Noel Lloyd. *Archaeology A to Z.* London and New York: Frederick Warne & Co., 1968. A small directory to archaeological sites and finds. Photographs and line drawings.

Silverberg, Robert. *Lost Cities and Vanished Civilizations.* Philadelphia: Chilton Books, 1962. Detailed account of major archaeological discoveries all over the world. Photographs.

______. *Sunken History.* Philadelphia: Chilton Books, 1963. Underwater archaeology.

______. *To the Rock of Darius: The Story of Henry Rawlinson.* Philadelphia: Chilton Books, 1966. Interesting study of Rawlinson and the riddle of cuneiform. Photographs.

Suggs, Robert C. *Modern Discoveries in Archaeology.* New York: Thomas Y. Crowell, 1962. Covers Stone Age man through Dead Sea Scrolls.

Watts, Edith W. *Archaeology: Exploring the Past.* Greenwich, Connecticut: New York Graphic Society, 1965. Archaeologists' equipment and methods of dating and record keeping.

White, Anne Terry. *Lost Worlds: The Romance of Archaeology.* New York: Random House, 1941. Engrossing, though difficult, history of archaeological finds. Conveys exciting sense of discovery.

Films

Archaeologists at Work. Borrow from: Corning Museum of Glass, Curator of Education, Corning Glass Center, Corning, New York 14830.

HN *Archaeology: Pursuit of Man's Past*

SUMER

Teacher Books

Chiera, Edward. *They Wrote on Clay.* Chicago: University of Chicago Press, 1938, 1960. The work of the archaeologist and the wealth of information that can be garnered about ancient Sumerian civilization from ancient libraries—the clay tablets.

Cottrell, Leonard. *The Quest for Sumer.* New York: G. P. Putnam's Sons, 1965. Covers archaeological discoveries in Mesopotamia; then examines Sumerian culture.

Kramer, Samuel Noah. *History Begins at Sumer.* Garden City, New York: Doubleday, Anchor Books, 1959. Twenty-seven essays on "firsts" in man's recorded history written by a foremost authority on Sumer. Extensive quotations from clay tablets deciphered by the author.

———. *Sumerian Mythology.* New York: Harper & Row, Harper Torchbooks, 1944, 1960. Includes many Sumerian myths deciphered by the author; most are literal translations and would need to be paraphrased for the class.

———. *The Sumerians.* Chicago: University of Chicago Press, 1963. Definitive work on Sumerian culture.

Mallowan, M. E. L. *Early Mesopotamia and Iran.* New York: McGraw-Hill, 1965. Catalogue of archaeological finds in southern Mesopotamia. Contains more Sumerian art than any other source found: 43 color plates, 99 black-and-white illustrations.

Sandars, N. K. *The Epic of Gilgamesh.* Baltimore, Maryland: Penguin Books, 1960, 1966. Excellent translation of the world's oldest epic poem. The introduction contains helpful information on Sumerian culture.

Woolley, Leonard. *Excavations at Ur.* New York: Barnes & Noble, 1963. Woolley's record of his excavations in southern Mesopotamia. Many sections can be read to the students to illustrate what the archaeologist finds, how he dates objects, how he restores them.

———. *The Sumerians.* New York: W. W. Norton, 1965. Essay on Sumerian culture by famed archaeologist.

Pupil Books

Bryson, Bernarda. *Gilgamesh: Man's First Story.* New York: Holt, Rinehart & Winston, 1966. Beautifully done version of the epic, in story form, with chapter divisions. Illustrated by the author.

Cottrell, Leonard. *Land of the Two Rivers.* Cleveland: World Publishing, 1962. Good account of Sumerian cultures. Black-and-white illustrations.

Fairservis, Walter A., Jr. *Mesopotamia, The Civilization That Rose Out of Clay.* New York: Macmillan, 1964. Handbook on civilizations of Sumer and Babylon. Picture section, glossary, bibliography, appendix.

Feagles, Anita (retold by). *He Who Saw Everything: The Epic of Gilgamesh.* New York: William R. Scott, 1966. Episodes from the great epic. Illustrated.

Fyson, J. G. *The Journey of the Eldest Son.* New York: Coward-McCann, 1967. Sumerian boy joins his father's trading caravan. Adventure awaits him in unknown terrain, away from the protection of his household god. Exciting story, authentic background.

———. *The Three Brothers of Ur.* New York: Coward-McCann, 1966. Novel about Sumerian family and the adventures that follow when youngest son breaks the image of the family's guardian spirit. Authentic background. Line drawings.

Joy, Charles R. *Getting To Know the Tigris and Euphrates Rivers.* New York: Coward-McCann, 1965. A brief trip through the valley of the twin rivers shows ruins of ancient times alongside today's canals, dams, and power projects.

Kramer, Samuel Noah, and the Editors of Time-Life Books. *Cradle of Civilization.* (Great Ages of Man: A History of the World's Cultures). New York: Time, Inc., 1967. Beautifully illustrated volume about beginnings of civilization in Mesopotamia. Adult text.

Lavolle, L. N. *The Key to the Desert.* New York: Abelard-Schuman, 1962. Mystery novel recreates life in ancient Sumer.

Mellersh, H. E. L. *Sumer and Babylon.* New York: Thomas Y. Crowell, 1964. Clearly written account of Sumerian civilization and culture.

Robinson, Charles Alexander, Jr. *The First Book of Ancient Mesopotamia and Persia.* New York: Franklin Watts, 1962. Good account of the ancient Near East and its people.

Miscellaneous

MI *Sumer and Babylonia* (transparencies)

EGYPT

Teacher Books

Casson, Lionel. *Ancient Egypt*. New York: Time, Inc., 1965. Excellent photographs and vivid descriptions combine to create a superb picture of life in ancient Egypt. Gallery of Egyptian gods.

Cottrell, Leonard. *The Lost Pharaohs*. New York: Holt, Rinehart & Winston, 1961. The author takes the reader along with the archaeologists as they make important discoveries in Egypt. Photographs.

Gardiner, Sir Alan. *Egypt of the Pharaohs*. Oxford: Clarendon Press, 1961. Scholarly attempt to update the history of Egypt.

Mertz, Barbara. *Temples, Tombs, and Hieroglyphs*. New York: Coward-McCann, 1964. Well-documented presentation of archaeology in Egypt.

Murray, Margaret A. *The Splendor That Was Egypt*. New York: Hawthorn Books, 1963. Scholarly account of Egypt by an Egyptologist who accompanied Sir Flinders Petrie on one of his expeditions to Egypt. Photographs.

Wilson, John A. *Signs and Wonders upon Pharaoh*. Chicago: University of Chicago Press, 1964. Scholarly treatment of American contributions to Egyptology.

Pupil Books

Asimov, Isaac. *The Egyptians*. Boston: Houghton Mifflin, 1967. The Egyptians from prehistoric times. Line drawings.

Baumann, Hans. *The World of the Pharaohs*. New York: Pantheon Books, 1960. Boy learns archaeology and history among the pyramids and tombs of ancient Egypt. Interesting information on Egyptian customs. Photographs.

Bruckner, Karl. *The Golden Pharaoh*. New York: Pantheon Books, 1959. The long search for Tutankhamen's tomb. Black-and-white drawings.

Casson, Lionel, and the Editors of Time-Life Books. *Ancient Egypt* (Great Ages of Man). New York: Time, Inc., 1965. The civilization of ancient Egypt in splendid color pictures. Good schematic treatment of building pyramids, interior of tombs, etc. Adult text.

Christie, Trevor L. *Legacy of a Pharaoh*. New York: J. B. Lippincott, 1966. The effort to save Abu Simbel in the course of building the Aswan Dam.

Cormack, Maribelle. *Imhotep: Builder in Stone*. New York: Franklin Watts, 1965. Interesting information on Egypt in the Third Dynasty, especially the building of the pyramids.

Cottrell, Leonard. *Land of the Pharaohs*. Cleveland: World Publishing, 1960. Easy-to-read, well-written account of life in ancient Egypt.

Fairservis, Walter A. *Egypt, Gift of the Nile*. New York: Macmillan, 1963. All phases of Egyptian history and everyday life. Picture section.

Glubok, Shirley. *Discovering Tut-ankh-Amen's Tomb*. New York: Macmillan, 1968. A condensation for young readers of Howard Carter's three-volume work on the discovery of King Tut's tomb. Photographs of the excavation in progress.

______. *The Art of Ancient Egypt*. New York: Atheneum, 1962. An excellent introduction to Egyptian civilization through its art and artifacts.

Green, Robert James. *Hawk of the Nile*. New York: St. Martin's Press, 1962. Derring-do tale of Egyptian boy eluding would-be captors all over the ancient world.

Hawkes, Jacquetta. *Pharaohs of Egypt*. New York: Harper & Row, 1965. Magnificent photographs of Egyptian reliefs, sculptures, wall paintings, and monuments accompany adult text.

Mellersh, H. E. L. *Finding Out About Ancient Egypt*. New York: Lothrop, Lee & Shepard, 1962. From the Rosetta Stone to the present. Illustrated with museum photographs and diagrams.

Morrison, Lucile. *The Lost Queen of Egypt*. New York: J. B. Lippincott, 1963. Novel about a girl queen of ancient Egypt with vivid scenes of court life.

Mozley, Charles. *The First Book of Tales of Ancient Egypt*. New York: Franklin Watts, 1960. Seven Egyptian myths told in simple language and appealing style. Illustrations.

Nearles, Janet. *The Mystery of the Pharaoh's Treasure*. New York: J. B. Lippincott, 1963. Adventure story of a 12-year-old boy living in ancient Thebes about 1500 B.C.

Neurath, Marie. *They Lived Like This in Ancient Egypt*. New York: Franklin Watts, 1964. Customs and culture of ancient Egypt. Many drawings.

Pine, Tillie S., and Joseph Levine. *The Egyptians Knew*. New York: McGraw-Hill, 1964. Accomplishments and inventions of the Egyptians; suggested experiments for the reader.

Robinson, Charles A. *The First Book of Ancient Egypt*. New York: Franklin Watts, 1961. Interesting and simple account of Egyptian history and culture.

Scott, Joseph and Lenore. *Egyptian Hieroglyphics for Everyone*. New York: Funk & Wagnalls, 1968. Good chapters on Egyptian scribes, Egyptian calendar, and Rosetta Stone.

INDUS VALLEY

Teacher Books

Piggott, Stuart. *Prehistoric India to 1000 B.C.* Baltimore, Maryland: Penguin Books, 1950. Excellent source book by an authority on the Indus River Valley civilization.

Pupil Books

Brennan, Louis A. *The Buried Treasure of Archaeology*. New York: Random House, 1964. See especially Chapter 13, which is devoted to Harappa.

Caldwell, John. *Let's Visit Pakistan*. New York: The John Day Co., 1960. Brief mention of Indus Valley people, but mostly about Pakistan today.

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